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A treatise of the
five orders of columns
in architecture. ...

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A
TREATISE
of the
FIVE ORDERS
OF
Columns
in
ARCHITECTURE
viz.
Toscan,
Doric, Ionic,
CORINTHIAN
AND
Composite.
Written in French by
Claude Perrault.
Made English by
JOHN JAMES
of Greenwich.

To the Right Honble

THOMAS

Earl of Pembroke & Montgomery,

LORD HERBERT of CAERDIFF &c.

LORD PRESIDENT OF

HER. MAJ^TIES most Honble *Privy Council:*

LORD LIEUTENANT GENERAL

And General Governor of the Kingdom of Ireland,

Knight of the most Noble Order of the Garter:

In a grateful Sense of many FAVOURS received from your LORDSHIP, This Translation is most humbly Dedicated by,

MY LORD,

YOUR LORDSHIPS

most humble and

Obedient Servant,

John James.

A TREATISE of the

FIVE ORDERS of COLUMNS IN ARCHITECTURE,

VIZ.

Tuscan, Doric, Ionic, Corinthian and Compositе.

WHEREIN

The Proportions and Characters of the Members
Of their several
PEDESTALS, COLUMNS and ENTABLATURES,
Are distinctly considered with respect to the Practice of the

Antients and Moderns.

ALSO

A most Natural, Easie and Practicable Method laid down for determining the most minute Part in all the Orders, without a Fraction.

To which is Annex'd,

A DISCOURSE concerning PILASTERS:

AND OF SEVERAL

ABUSES introduced into ARCHITECTURE.

Engraven on Six Folio Plates *of the several* Orders, *adorn'd with* Twenty-Four Borders, *as many* Initial Letters, *and a like number of* Tail-Pieces, *by*

John Sturt.

Written in French by

Claude Perrault,

Of the ROYAL ACADEMY *of* PARIS, *Author of the Celebrated* COMMENT ON VITRUVIUS.

Made English by John James *of* Greenwich.

LONDON:
PRINTED by Benj. Motte, MDCCVIII.
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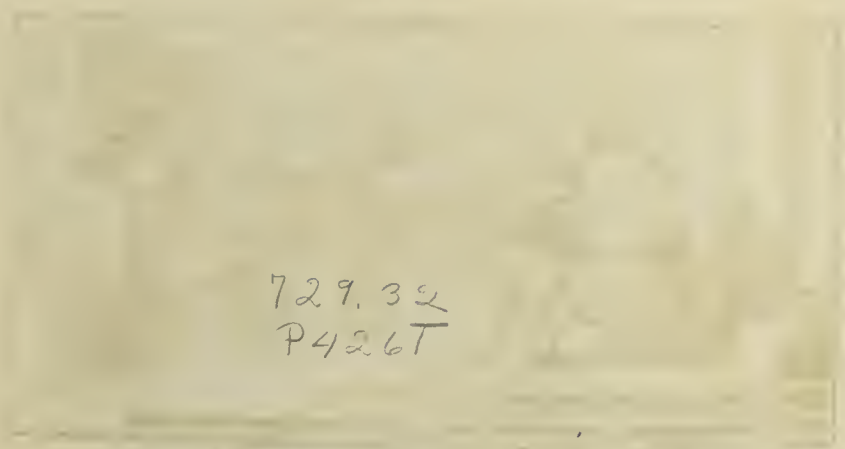

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TO MY LORD
COLBERT,
MARQUIS of SEIGNELAY,
BARON of SEAUX, &c.

MINISTER and SECRETARY of STATE, and of the King's Commands; Commander and Grand Treasurer of His Majesty's Orders; Comptroller General of the Finances; Superintendant and Surveyor General of His Majesty's Buildings and Gardens, and of the Arts and Manufactures of *France.*

Y LORD,

After having, by your Lordship's Order, translated and explain'd Vitruvius, *with a Success owing principally to the*

* * *

Judgment

Judgment your Lordſhip has given of it, and which I could never have had the Confidence to hope for, had I not relied on that incredible Power which your Lordſhip's Care and Conduct has to make every Thing ſucceed you undertake; The BOOK *which I now take the Freedom to preſent your Lordſhip, having the ſame Advantage, in the good Fortune, that its Deſign, as bold and extraordinary as it is, has receiv'd your Lordſhip's Approbation, I expoſe it to the World with the ſame Confidence. As this is a ſort of Supplement to what was not particularly enough treated of by* Vitruvius, *'tis probable thoſe who are curious in the noble Art that Author has taught us, may be pleas'd with the Novelties this Book contains; and that ſuch as pleaſe to put its Rules in Practice, will find them of conſiderable Uſe in making thoſe Things eaſie and delightful that are wont to give the greateſt Trouble. For fully to anſwer the Intentions your Lordſhip has, to furniſh the Lovers of Architecture, with all poſſible Means that may render them accompliſh'd, and make them capable of contributing, by eternal Monuments, to the Glory of our invincible Monarch, it was not enough to have drawn ſo many Rarities, contain'd in the excellent Books of* Vitruvius, *out of almoſt an impenetrable Obſcurity, to have explain'd, from this Author, with greater Clearneſs than formerly, the Principles and Precepts of the Art of Building, and the Particulars of theſe* Ancient *Wonders of the World that he has deſcrib'd to us: but it was farther requiſite to clear that Confuſion and Diſorder wherein the* Modern *Authors have left the greateſt part of what belongs to the*

five

five Orders of Columns, where we ſcarce find any certain Rule; Authors all differing concerning the Proportions thoſe beautiful Parts ought to have, which make all the Ornament and Majeſty of great Buildings. But my Lord, how difficultly ſoever the Means by which I propoſe to confine theſe Proportions within certain Rules, may be receiv'd, by reaſon of the great Eſteem there is deſervedly for thoſe of a contrary Opinion to mine, and whoſe Works being ſo generally approv'd, ſeem, in ſome Meaſure, to oppoſe my Deſign; I am nevertheleſs perſwaded that it will not appear altogether raſh and inconſiderate, when the World ſhall know your Lordſhip has not diſapprov'd it. I mention theſe Particulars, my Lord, for the Concern I have the Publick ſhould be inform'd, that my Book having Need of ſuch an Authority as your Lordſhips, I would not omit to explain this Authority, if the Weight of it could poſſibly be doubted of, as it might whether I have the Honour of being ſupported by it. The great Light of that vaſt Genius, which renders You capable of all ſorts of Knowledge, has ſhin'd ſufficiently to inform the World long ſince, that the moſt ſublime Things which uſually poſſeſs your Mind, do not ſo wholly fill it, but that there is room for the leſs important; and no one can fail of being convinc'd but ARCHITECTURE, *that Queen of the Beauteous Arts, has a principal Place among thoſe for which You have the greateſt Inclination, if we conſider the excellent Works perform'd by Your Orders, in ſo great Numbers, and in ſo little Time, to the Admiration of the Intelligent, and the utmoſt Satisfaction of all who paſſionately love the Glory of the*

Great

DEDICATION.

Great Monarch under whom we live, and of the happy Age we have the good Fortune to be born in. But what more particularly obliges me to inform the World that a Work ſo apparently uſeful was done by Your Lordſhip's Order, is the Hope I have that the Public, who will receive the Benefit of it, will alſo aſſiſt me to acknowledge part of the Obligation due from me to Your Lordſhip, for having been pleas'd to truſt me with a Work of this Importance: there being nothing in the World I more ardently deſire than to give your Lordſhip Proofs of that profound Reſpect with which I am,

My LORD,

Your Lordſhip's moſt humble,
and moſt obedient Servant,

PERRAULT.

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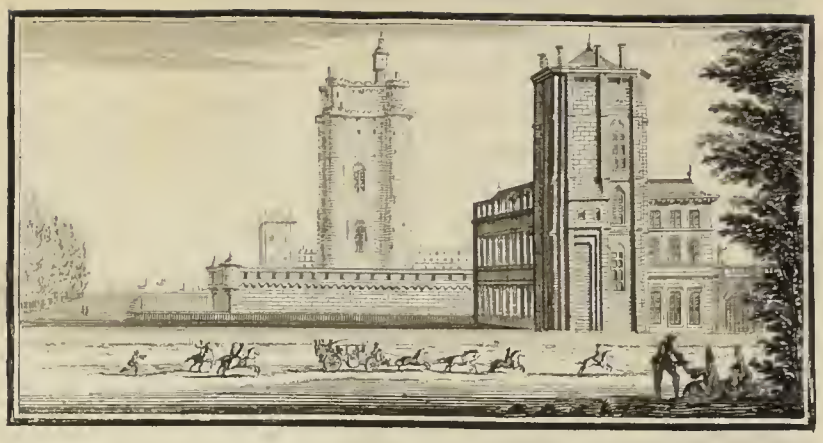

THE PREFACE.

It was not without Reaſon the Ancients *thought that the Rules of thoſe Proportions, which make the Beauty of Buildings, were taken from the Proportions of humane Bodies, and that as Nature has given a ſtronger Make to Bodies fit for Labour, and a ſlighter to thoſe of Activity and Addreſs; ſo there are different Rules in the Art of Building, according as a Fabrick may be deſign'd maſſy or more delicate. Now theſe different Proportions, accompanied with their proper Ornaments, make the Differences of the Orders of Architecture; in which, the moſt viſible Characters which diſtinguiſh them, depend on the Ornaments, as the moſt eſſential Differences conſiſt in the Proportions that their Parts have in regard of each other.*

Theſe Differences of the Orders, taken from their Proportions and Characters, without much exact Punctuality, are the only Things that Architecture has well determin'd: all the reſt, which conſiſts in the preciſe

Meaſures of the ſeveral Members, and a certain turn of their Figures, has, as yet, no certain Rules, in which all Architects agree; each having endeavour'd to give theſe Parts all poſſible Perfection, chiefly in what reſpects the Proportion: ſo that ſeveral, tho' by different Ways, have, in the Opinion of the judicious, had equal Succeſs: Which ſhews that the Beauty of a Building is ſo far like that of a humane Body, that it conſiſts not ſo much in the exactneſs of one certain Proportion, or Conformity of Size, which the Parts have one with the other, as in the Grace of the Form, which is nothing elſe but its agreable Modification, upon which, an excellent and perfect Beauty may be founded, without ſtrictly obſerving this very kind of Proportion. For as a Face may be handſom, or homely, with one and the ſame Proportion, ſince the Change we obſerve in the Parts, when, for Inſtance, Laughing leſſens the Eyes, and widens the Mouth, is like what we ſee in the ſame Face, when it weeps; this very change of Proportion, which pleaſes in the one, being diſagreeable in the other; and on the contrary, two Faces, with different Proportions, may be equally beautiful: So we ſee in Works of Architecture, very different Proportions, ſo graceful, as to be equally approv'd of by the judicious, and ſuch as have the true Taſt of Architecture.

But as it muſt be granted, that no one certain Proportion is abſolutely required in the Beauty of a Face, it is, notwithſtanding, likewiſe true, there is a Proportion, from which, it cannot vary much, without loſing the Perfection of its Beauty; there are alſo, in Architecture, Rules of Proportion, not only in the general, ſuch as are thoſe which diſtinguiſh the Orders each from other, but likewiſe in the particular Parts, from which we cannot deviate, without loſing much of the Grace and Elegance of the Structure: but in theſe Proportions, the Architect has a ſufficient Latitude to augment or diminiſh the Dimenſions of the Parts, as occaſion ſhall require. 'Tis by Virtue of this Privilege, that the Ancients *have made Works ſo extraordinary in their Proportions, ſuch as the* Doric *and* Ionic *Cornices of the Theatre of* Marcellus, *and that of the Frontiſpiece of* Nero, *which are half as large again as they ought to be, according to the Rules of* Vitruvius: *And on the ſame Account, all thoſe that have wrote of Architecture, vary from each other; ſo that we cannot find, either in the remains of the Buildings of the* Ancients, *or among the great Number of Architects that have*

treated

treated of the Proportions of the Orders, that any two Buildings, or any two Authors, agree, and have followed the ſame Rules.

This ſhews what Ground there is for the Opinion of thoſe, who imagine that the Proportions, which ought to be obſerv'd in Architecture, are certain and invariable, as thoſe are which make the Delicacy and Agreement of Sounds in Muſick, which depend not upon us, but are ſuch as Nature has fix'd, and eſtabliſh'd, with ſo preciſe an Exactneſs, that they cannot be alter'd, without immediate Offence to the leaſt curious Ear: for if it were ſo, it muſt needs follow, that thoſe Works of Architecture, which have not theſe true and natural Proportions, which, 'tis pretended, they are capable of having, would be condemn'd by common Conſent, or at leaſt, by thoſe, who, through their great Knowledge and Abilities, are the beſt Judges in this Affair: And, as we ſee, Muſicians never differ about the Truth of a Conſonance, becauſe there is a certain and evident Beauty in the Exactneſs of it, of which, the Senſes are eaſily, and even neceſſarily convinc'd; ſo would Architects agree in thoſe Rules which would make the Proportions of Architecture perfect; eſpecially after having ſought them with ſo much Diligence, as 'tis plain they have, in running through, by a vaſt number of Experiments, all the ſeveral Degrees that might give them this Perfection; as is eaſily evinc'd from the Example of the different Projectures which have been given the Doric *Capital. For* Leon Baptiſta Alberti *makes this Projecture of no more than two Minutes and a half, ſixty of which Minutes are the Diameter of the Column;* Scamozzi *makes it of five Minutes; and* Serlio *gives it ſeven and a half; that of the Theatre of* Marcellus *has ſeven and three quarters, and that of* Vignola *eight;* Palladio *allows it nine,* De Lorme *ten; and, in the* Coliſeum, *it is ſeventeen. Thus 'tis near two thouſand Years, that Architects, aſſaying and trying, from two and a half to ſeventeen, have made this Projecture near ſeven times larger, ſome than others, without taking Offence at the Extravagance of Proportions, ſo different from that which they would have paſs for the true and natural one, as they muſt have done, had any of theſe Proportions been ſuch, and which would neceſſarily have had the ſame Effect, as thoſe Things which offend or pleaſe us, without our knowing wherefore.*

Now

Now, the Reaſon why it can't be ſaid, that the Proportions of Architecture pleaſe the Sight on an unknown account, and that, of their own Nature, they perform their Effects, as harmonious Sounds produce theirs in the Ear, notwithſtanding the Hearer's Ignorance of the Reaſon of their Conſonance; is, that the Knowledge which we have, by Means of the Ear, of what reſults from the Proportion of two Strings, wherein the Harmony conſiſts, is quite different from the Knowledge we have, by the Eye, of what ariſes from the Proportion of the Parts, of which a Column is compos'd; for if the Mind is touch'd by the Interpoſition of the Ear, with what reſults from the Proportion of two Strings, without its knowing that Proportion, 'tis becauſe the Ear is not capable to transferr this Knowledge; but the Eye, which hath a Capacity of communicating the Knowledge of that Proportion which is pleaſing, cannot otherwiſe make the Mind ſenſible of any Effect of it, than by the Knowledge it gives of the Proportion it ſelf; from whence it follows, that what is agreable to the Eye, is not ſo, on account of its Proportion, when the Eye knows it not, as it very often happens.

To make a juſt Compariſon, then, between Muſick and Architecture, we muſt not conſider Conſonances, barely in themſelves, which are all, naturally ſuch as cannot be chang'd, but the Manner of making uſe of them, which is different by different Muſicians, and in divers Nations, like as the Proportions of Architecture are in different Authors and Buildings: for as we know not any one Way of compoſing Harmony, that is neceſſarily and infallibly better than another, nor any Reaſon that can demonſtrate the French *Muſick to excel the* Italian, *ſo there can be none found to prove, that a Capital, which has more or leſs Projecture, ſhould neceſſarily and naturally be more beautiful than another; nor is it here as in a ſimple Conſonance, where it may be demonſtrated that a String, which has either a little more or leſs than half the Length of another, makes an intollerable Diſcord with this other, by reaſon the Proportion naturally and neceſſarily produces ſuch Effect in their Sounds.*

There are alſo other Effects, which Proportion, of it ſelf, naturally produces in Mechanicks, for the Movement of Bodies, which cannot be compar'd to thoſe it produces for the Pleaſure and Delight of Sight: for if a certain Length of one Arm of a Balance, in reſpect to the other, cauſes one Weight

neceſſarily

neceſſarily and naturally to outweigh the other, it does not thence follow, that a certain Proportion, which the Parts of a Building have in regard of each other, muſt produce a Beauty that has ſuch effect upon the Mind, as to force it, (if I may ſo ſpeak) and oblige it to an Approbation, as the Proportion of the Arm of a Ballance, makes it infallibly go down on that Side where the Arm is longeſt. This however, is what moſt Architects ſay, when they would have us believe that what makes the Beauty, as for Inſtance, of the Pantheon, *is the Proportion, which the Thickneſs of the Walls has with the Vacuity of the Temple, that of its Breadth with its Height, and a hundred other Things, which are not diſcernable without Meaſuring, and by which, when perceiv'd, we can no ways be aſſur'd that they might not as well have been otherwiſe, without being diſagreeable.*

I ſhould not inſiſt ſo much on this Queſtion, tho' 'tis a Point whoſe Reſolution is of the greateſt Importance to my preſent Deſign, being well aſſur'd, that thoſe who will give themſelves the Trouble to examine, will ſoon find the Opinion I eſpouſe, has no great need of other Reaſons than thoſe I have produc'd; were it not that moſt Architects hold the contrary: For that ſhews we ought not to look upon this Problem as unworthy our Examination; ſince if Reaſon appears on one Side, the Authority of Architects, which is on the other, ought to ballance the Matter, and keep it in ſuſpence, though, I confeſs, Architecture would not otherwiſe be concern'd in this Diſpute, were it not for ſome particular Works, and Examples taken from thence, which ſerve to evince, that there are many Things, which, tho' contrary to Reaſon and good Senſe, fail not to pleaſe; but all Architects agree in the Truth of theſe Inſtances.

Now, although we often like Proportions that are conformable to the Rules of Architecture, without knowing why we affect them, it may, however, be truly ſaid, that we ought to have ſome Reaſon for this Love, and the Difficulty is only to know whether this Reaſon be always ſomething that is poſitive, as is that of the Conſonance of Muſick, or whether it is not moſt commonly founded upon Cuſtom only; and whether that which renders the Proportions of a Building agreeable, be not the ſame thing with that which makes a modiſh Habit pleaſe on account of its Proportions, which nevertheleſs have nothing poſitively beautiful, and that ought to be lov'd for it ſelf; ſince when Cuſtom, and other Reaſons not poſitive, which induc'd this Love, come to change. we affect them no longer, tho' they remain the ſame.

To judge rightly in this Caſe, we muſt ſuppoſe two Sorts of Beauties in Architecture, namely thoſe that are founded on ſolid convincing Reaſons, and thoſe that depend only on Prepoſſeſſion and Prejudice; by Beauties founded on convincing Reaſons, I underſtand ſuch as cauſe Buildings to pleaſe every one, becauſe their Worth and Value are eaſie to be known, ſuch as are the Richneſs of the Materials, the Grandeur and Magnificence of the Structure, the Exactneſs and Neatneſs of the Performance, and the Symmetry, which denotes that kind of Proportion, which produces an evident and remarkable Beauty: for there are two Sorts of Proportions, whereof one, which is difficult to be perceiv'd, conſiſts in the relative Conformity of the proportional Parts, ſuch as the Dimenſions of the Parts in reſpect of each other, or of the whole. The other Proportion, which we call Simmetry, and which conſiſts in that Correſpondence the Parts have one with another, on account of the Equality, and Parity of their Number, their Magnitude, their Situation, and their Order, is a thing very obvious, and the Effects thereof ſuch as we can never fail of diſcovering, as is evident from the Inſide of the Pantheon, *where the Compartment of the Vault, having no Reſpect to the Windows beneath, cauſes a Diſproportion, and want of Simmetry eaſie to be obſerv'd by any one, and which, had it been corrected, would have produc'd a more viſible Beauty than what proceeds from the Proportion which the Thickneſs of the Walls bear to the Vacuity of the Inſide of the Temple, or from the other Proportions found in this Structure, as that of the Portico, which has, in breadth, three Fifths of the Diameter of the whole Temple, from out to out.*

Now to theſe kinds of Beauties, which I call Poſitive and Convincing, I oppoſe thoſe I call Arbitrary, becauſe they depend upon the Will we have to give ſuch a certain Proportion, Form and Figure to Things, which might have another without Deformity, and which are not agreeable, for Reaſons of which, every one is a Judge, but only through Cuſtom, and a Connexion which the Mind makes of two Things of a different Nature, for by this Connexion, it comes to paſs, that the Eſteem, wherewith the Mind is poſſeſs'd, for ſome Things whoſe Value it knows, inſinuates an Eſteem, alſo, for others, whoſe Worth it knows not, and inſenſibly engages it to reſpect them alike. This Principle is the natural Foundation of Belief, which is nothing elſe but an Effect of that Prepoſſeſſion, by which the Knowledge and

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good Opinion we have of him who aſſures us of any thing whoſe Truth we are ignorant of, diſpoſes us to make no Doubt of it. 'Tis this Prepoſſeſſion, alſo, that makes us like Things in the Mode, and the Ways of Speaking us'd at Court: for the Regard we have for the Merit and good Graces of the Court, makes us love even their Dreſs and manner of Speech, though theſe Things have nothing in them poſitively amiable, and ſome ſhort time after they become diſagreeable, without having undergone any Change in themſelves.

Thus it is in Architecture, there are Things which Cuſtom only renders ſo agreeable, that we cannot bear to have them otherwiſe, tho' they have no Beauty in themſelves, that muſt infallibly pleaſe, and neceſſarily demand Approbation, ſuch as is the Proportion which Capitals generally have with their Columns: and there are even ſome Things, which Reaſon and good Senſe would render deform'd and diſagreeable, that Cuſtom has made tolerable, ſuch as the Situation of Modillions in Pedaments, that of Dentels under the Modillions, the richneſs of Ornaments in the Doric *Cornice, the plainneſs of the* Ionic, *the Poſition of Columns, which ſtood not plum in the Porches of the Temples of the* Ancients, *but inclining towards the Wall. For all theſe Things, which ought to give Diſtaſte, as being contrary to Reaſon and good Senſe, were firſt born with, becauſe join'd with poſitive Beauties; and at length became agreeable by Cuſtom, which has even had ſuch Influence on thoſe who may be ſaid to have had the Taſt of Architecture, that they have not been able to permit they ſhould be otherwiſe.*

To know how many Rules there are in Architecture for Things which pleaſe, although contrary to Reaſon; we ought to conſider that the Reaſons which ſhould chiefly regulate the Beauty of Architecture, ought to be foanded, either upon the Imitation of Nature, ſuch as is the Correſpondence of the Parts of a Column with its whole; like as there is between the entire Body of a Man, and all its Parts, or upon the Reſemblance that a Fabrick may have with the firſt Buildings, that Nature taught Men; or upon the Likeneſs that the Quarter-rounds, Ogees, Aſtragals, and other Members have to the Things from whence the Figures of thoſe Mouldings were taken; or, laſtly, upon the Imitation of what is done in particular Arts, as in Carpentry, whence are derived the Freezes, Architraves, and Cornices, with their ſeveral Members, as Modillions and Mutules. Nevertheleſs 'tis not

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upon theſe Imitations and Reſemblances, that the Grace and Beauty of all theſe Things depends; for if it were ſo their greateſt Beauty would conſiſt in the moſt exact Imitation. Now we do not find that the Proportions and Figure, which all theſe Things ought to have to make them agreeable, and which cannot be chang'd, without giving Diſtaſte, are taken exactly from the Proportions and Figure of the Things they repreſent and imitate. For it is certain that the Capital, which is the Head of that Body, the whole Column repreſents, has not the Proportion which the Head ought to have to a Body, ſince the more ſquat the Body is, the fewer times doth it contain the Length of the Head, and on the contrary, the thickeſt Columns have the loweſt Capitals, and the ſlendereſt have the higheſt in proportion to the whole Column. In the ſame manner, thoſe Columns are generally diſlik'd, which neareſt reſemble the Bodies of Trees, which were the Poſts of the firſt Huts that were built; and we commonly chuſe to have them ſwelling in the middle, which is never ſeen in the Trunks of Trees, for they are gradually tapering to the Top. Nor would Cornices give greater Satisfaction, did their Members more exactly repreſent the Figure and Diſpoſition of the Pieces of Carpentry, from whence they were firſt devis'd: for then the Dentels ought to be above the Modillions, which in Cornices, at the Eaves, repreſent the Ends of Rafters; and the Modillions, which, in the Cornices of Pediments, expreſs the Ends of Purlins, ought to lye ſquare to the ſloping Line of the Pediment, as the Purlins do to the Declivity of the Roof, and not perpendicular to the Entablature, as is generally practis'd; and laſtly, were the Quarter-rounds to bear a greater Likeneſs to Cheſnuts in their prickly Shell, the Ogees to the Waves of a River, and the Aſtragals to a Heel, they would be never the better reliſh'd by the judicious. 'Twere alſo requiſite, did Reaſon alone direct our Judgment, that the Ionic *Cornices ſhould be richer, and more adorn'd than the* Doric; *it being but juſt, that a more delicate Order ſhould have more Ornaments than that which is more maſſive; and in fine, we ſhould never be able to ſuffer, as they did formerly, the Columns to be ſet leaning of one ſide, had not Cuſtom made tolerable a Thing in itſelf ſo contrary to Reaſon.*

Neither the Imitation of Nature, nor Reaſon, nor good Senſe, are then the Foundation of thoſe Beauties, which we fancy we ſee in the Proportion, Order, and Diſpoſition of the Parts of a Column; and it is impoſſible to aſſign

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any other Cauſe of their Agreeableneſs, than Cuſtom. So that thoſe who firſt invented theſe Proportions, having ſcarce any other Rule than their Fancy, according as that has chang'd, new Proportions have been introduc'd, which likewiſe pleas'd in their turn. Thus the Proportion of the Corinthian *Capital, which was counted beautiful by the* Greeks, *was not approv'd of by the* Romans, *the former allowing only the Diameter of the Column for its Height, and the latter having added a ſixth part more. I know very well, it may be ſaid, that when the* Romans *increas'd the Height of this Capital, they did it with Reaſon, for that it makes room to give the Stalks and Volutes a more agreeable turn, than could be done, where the Capital was ſhort and wide. And 'tis on this account, that the Capitals of the great Columns, of the Front of the* Louvre, *are made even higher than thoſe of the* Pantheon, *after the Example of* Michael Angelo, *who in the Capitol, at* Rome, *has made them ſtill higher than they are at the* Louvre. *But this only ſhews, that the Taſt of thoſe Architects, who have approv'd, or do ſtill approve the Proportion, which the* Greeks *gave their* Corinthian *Capitals, ought to be charg'd upon ſome other Principle than that of a Beauty, poſitive, convincing, and amiable in it ſelf, exiſting in the thing as ſuch, that is, as having this very Proportion; and that it is difficult to find any other Reaſon for this Eſteem, than Cuſtom and Prepoſſeſſion. I confeſs, indeed, this Prepoſſeſſion, as was ſaid before, is founded on an infinite number of Beauties, convincing, poſitive and rational, which meeting together in Work with this Proportion, have been able to render it ſo graceful, tho' the Proportion contributed nothing to its Beauty, that the juſt Eſteem Men have had for the entire Work, has made them likewiſe ſingly reſpect all the Parts which compoſe it.*

Thus it fell out in the firſt Works of Architecture, where the Richneſs of the Materials, the Grandeur, the Magnificence and Delicacy of the Workmanſhip, the Symmetry, that is, the Equality and juſt Correſpondence, which the Parts have each to other, in keeping the ſame Order and Situation, the good Judgment in Things capable of it, and where other evident Reaſons of Beauty were found, the Structures appear'd ſo beautiful, and gain'd ſuch Admiration and Eſteem, that they were judged fit to be the Rule and Pattern of others, and as it was believ'd impoſſible to add to, or alter any Thing in all theſe poſitive Beauties, without impairing thoſe of the whole Work: ſo they could not imagine, but that the Proportions, which might really have been

otherwiſe, without prejudice to the other Graces, would have produc'd an ill Effect, had they been alter'd. Juſt as when a man is paſſionately in love with a Face, tho' it has nothing perfectly beautiful but the Complexion, yet he cannot help thinking the Proportion too ſo agreeable, that he knows not how to believe, any Change thereof could render it more charming: foraſmuch as the great Beauty of a Part making him love the Whole, the love of the Whole neceſſarily includes that of all the Parts.

'Tis certain, then, that there are ſome Beauties in Architecture, which are poſitive, and ſome that are only arbitrary, though they ſeem poſitive through prejudice, from which it is very difficult to guard our ſelves. 'Tis alſo true, that a good Judgment is founded on the Knowledge of both theſe Beauties; but it is certain, that the Knowledge of arbitrary Beauties, is moſt proper to form what we call a right Taſt, and 'tis that only which diſtinguiſhes true Architects from thoſe that are not ſo; becauſe common Senſe alone is ſufficient for knowing the greateſt part of poſitive Beauties; nor is their any great difficulty in judging that a large Fabrick of Marble, wrought with great Nicety and Exactneſs, is handſomer than a ſmall Building of rough-hewn Stones, where there is nothing exactly level, ſquare, or perpendicular. It requires no very great Ability in Architecture, to know that the Court of a Houſe ought not to be leſs than the Chambers, that the Cellars ſhould not be lighter than the Staircaſes, and that Columns ought not to be thicker than their Pedeſtals. But good Senſe can never inform us, that the Baſes of Columns ought to have in Height, neither more nor leſs, than half the Diameter of the Column; that the Modillions and Dentels, in Pedaments ſhould be perpendicular to the Horizon; that the Dentels ought to be under the Modillions; that the Triglyphs ſhould have in Breadth half the Diameter of the Column, and that the Metopes ſhould be preciſely ſquare.

It is alſo eaſie to conceive that all theſe Things might have had other Proportions, without Offence to the moſt exquiſite and delicate Senſe; and that it is not here as in the Conſtitution of our Bodies, which, when diſorder'd, may be dangerous, though the ſick perſon knows not the degrees of thoſe Qualities which make it ſo: for to be diſpleas'd or pleas'd with the Proportions of Architecture, we muſt be inſtructed by a long Obſervation of the Rules, which Uſe alone has eſtabliſh'd, and of which, good Senſe could never have given us the leaſt Knowledge: as in the Civil Laws, there are

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ſome which depend on the Will of the Legiſlators, and the Conſent of the People, which the natural Light of Equity does not diſcover to us.

If, then, true Architects, in conſidering Works of different Proportions, as was ſaid before, approve only of thoſe that are in a Mean between the two Exceſſes in the Examples before cited, it doth not follow, from thence, that theſe Exceſſes offend a judicious Eye, on account of any Deformity, that, for a natural and poſitive Reaſon, muſt neceſſarily diſpleaſe every one, as being contrary to good Senſe; but only as not being according to that Manner which has us'd to pleaſe in the beautiful Works of the Ancients, *where theſe exceſſive Proportions are not ordinarily encountred; and where even this Manner is not pleaſing ſo much in itſelf, as becauſe it is accompanied with other poſitive, natural and rational Beauties, which, if I may ſo ſpeak, make it lov'd for company.*

But becauſe this Manner, conſiſting in a Mean, equally diſtant from the Extremes, obſervable in the propos'd Examples, has not only a Latitude, not preciſely determin'd in theſe different Works, which, for the moſt part, are equally approv'd; but has likewiſe no reaſon in it that ſhould require ſo very nice and preciſe an Exactneſs to make it agreeable; and that by conſequence, properly ſpeaking, Architecture has no Proportions true in themſelves; it remains to be examin'd, if we can eſtabliſh thoſe that are probable and likely, founded upon poſitive Reaſons, without departing too far from the Proportious uſually received.

The Modern *Architects, who have wrote of the Rules of the five Orders of Architecture, have treated of this Subject two Ways: Some have only collected from the* Ancient *and* Modern *Works, the moſt illuſtrious and approv'd Examples; and as theſe Works contain different Rules, they have contented themſelves with propoſing all, and comparing them together, without determining ſcarce any thing as to the Choice we ought to make. Others have thought that in this Diverſity of Opinions of Architects, concerning the Proportions which ought to be obſerv'd in the ſeveral Members of each Order, it might be permitted them to give their Judgments on thoſe Opinions which had all Authors, ſo great, that they could not eſtabliſh a bad Choice: and they have even made no Scruple to propoſe their own private Sentiments, as a Rule: For we may ſay, that* Palladio, Vignola, Scamozzi, *and moſt of*

of the other famous Architects have done thus, who have neither been careful, punctually to follow the Ancients, *nor to conform to the* Moderns.

The Design of these latter is nevertheless commendable, in that they have endeavour'd to establish certain and determin'd Rules, to which, Recourse might always be had for every thing capable of such Decision. But it were to be wish'd, either that some one amongst them had had an Authority sufficient to make such Laws as should have been inviolably observ'd; or that such Rules could be found out, that had in themselves Truth so evident, or at least, such Probabilities and Reasons as might make them preferable to all others, that have been propos'd; that one way or other there might be something fix'd, constant, and establish'd in Architecture, at least in regard to the Proportions of the five Orders, which would not be very difficult: for these Proportions relate to things which need no Study, Search or Discovery to be made of them, as there does of what concerns the Strength and Conveniency of Buildings, where there is certainly room for a great many new and very considerable Improvements; neither are they of the Nature of those Proportions, requisite in the Works of Military Architecture, and in the making all Sorts of Machines, where the Proportions are of the greatest Importance.

For 'tis certain it signifies little to the Beauty of a Building, whether in the Ionic *Order, for instance, the Height of the Dentel, in the Cornice, be precisely equal to the second Face of the Architrave; or whether the Rose, in the* Corinthian *Capital, descends lower than the Abacus; or whether the Volutes, in the Middle, rise just as high as the Rim of the Vase of the Capital: for although these Proportions were observ'd by the* Ancients, *and prescrib'd by* Vitruvius, *the* Moderns *have not followed them: and there can be no other Cause assign'd for it, than that these Proportions are not founded upon necessary and positive Reasons, as they are in many other Things, as in Fortifications and Machines, where a Line of Defence, for Example, cannot be longer than the reach of the Artillery, nor one Arm of a pair of Scales shorter than the other, without rendering these things absolutely useless and defective.*

For this Reason, we may consider the two Manners of treating of the Proportions of the five Orders, practic'd and receiv'd at present, as not being the

the only ones that may be made uſe of, and that there is nothing ought to hinder the receiving of a third. To make this plain by a Compariſon I have already us'd, and which is very natural to the Subject I am now ſpeaking to, (wherein the third Manner conſiſts) I ſay, we may imagine that thoſe who follow the firſt Manner, do juſt as if in preſcribing the Proportions of a beautiful Face, they ſhould give exactly thoſe of Helena, Andromache, Lucretia, *or* Fauſtina ; *in which, for Example, the Forehead, the Noſe, and the Space from the Noſe to the Extremity of the Chin, were equal within a few Minutes, yet differently in each of theſe Faces : and that the Architects, who follow the ſecond Manner, do like thoſe, who, giving the Proportions of a beautiful Face, ſhould allow nineteen Minutes and a half, from the Root of the Hair to the beginning of the Noſe ; twenty Minutes and three quarters, from the beginning of the Noſe to its End, and nineteen Minutes and three quarters, from the Extremity of the Noſe to that of the Chin : and laſtly, the third Manner is to make theſe three Spaces equal, by giving each twenty Minutes.*

Thus, to apply this Compariſon to Architecture, if it ſhould be demanded, according to the firſt Method, what ought to be the Proportions, for Inſtance, of the Height of the whole Architrave, in reſpect of the Freeze ; the Anſwer would be, That in the Temple of Fortuna Virilis, *in the Theatre of* Marcellus, *and almoſt generally, they are equal within few Minutes ; the Freeze being a ſmall matter the higher, in ſome of theſe Fabricks, and the Architrave in others. If we conſult the ſecond Method, we ſhall find that thoſe who lay down Rules for the Proportions we ſpeak of, do not vary much from this Equality, but their Meaſures are ſomewhat different from thoſe of the* Ancients, *and ſome make them equal in one Order, and not in another. But in following the third Method, we ſhall always make them equal in the* Ionic, Corinthian *and* Compoſite.

Now it is very obvious, that this third Manner is at leaſt more eaſie and convenient than the others, ſince if it is true, that the one hundred and twentieth Part of the whole Face added to, or taken from the Forehead, Noſe, or Chin, doth not make the Face more or leſs agreeable ; it is likewiſe as true, that nothing is more eaſie than to find, imprint and retain in memory, the Proportion it ought to have. So that if we cannot ſay this Proportion is preciſely the true one, ſince a Face may have all the Agreeableneſs poſſible, without this very Proportion, and may be diſagreeable with it, yet it ought,

at leaſt, to be eſteem'd the moſt likely, ſince it is founded upon a poſitive Reaſon, which is the Regularity of the Diviſion of the Whole, into three equal Parts. This Method is that which the Ancients *follow'd, and that* Vitruvius *made uſe of, in the Explanation of the Proportions he has given, where he always proceeds by methodical Diviſions, eaſie to be retain'd; and this Way was left off by the* Moderns, *for no other Reaſon, but becauſe they found they could not accomodate it to the irregular Meaſures that are in the Members of the noble Remains of* Antiquity, *which are found very different from what* Vitruvius *hath left us: ſo that they would have been oblig'd to alter them, in ſome meaſure, to reduce them to the regular Proportions, which this Method requires: and yet the greateſt part of Architects are perſuaded that theſe Works would have loſt all their Beauty, if one Minute only had been taken from, or added to, any of the Members, other than what the admirable Artiſts of* Antiquity *aſſign'd them.*

For 'tis hardly to be imagin'd what a ſuperſtitious Reverence Architects have for thoſe Works we call Antique, *in which, they admire every thing, but principally the Myſtery of their Proportions, which they are pleas'd to contemplate with a profound Reſpect, without daring ſo much as to undertake an Inquiry into the Reaſons, why the Dimenſions of a Moulding were not a little leſſer or greater; which is a Thing, we may well preſume, was unknown, even to thoſe that made them. This would not be ſo ſtrange, were we aſſur'd that the Proportions, we ſee in theſe Works, were not alter'd, and ſomewhat different, from thoſe which the firſt Inventors of Architecture eſtabliſh'd; or were we of the Opinion of* Villalpandus, *who pretends that* God, *by a particular Inſpiration, taught all theſe Proportions to the Architects of* Solomon's *Temple, and that the* Greeks, *whom we eſteem the Inventors, learn'd them only, from thoſe Architects.*

It is true, however, that this exceſſive Reſpect, Architects have for the Antique, *which is common to them with the moſt part of thoſe that make Profeſſion of humane Sciences, whoſe Opinion is, that there is nothing made now, comparable with thoſe of the* Ancients, *takes its Riſe, as unreaſonable as it is, from that true Reſpect which is due to holy things. It is well known, that the Barbarity of the latter Ages, in the cruel War made upon all the Sciences, which totally extirpated them, Theology only excepted, was the Reaſon that what little Learning remain'd having taken Sanctuary in the Cloiſters,*

Cloiſters, ingenious and inquiſitive Perſons, were oblig'd to ſearch thoſe Places for the Subject of all curious Knowledge, as well of Antiquity *as of* Nature, *and there exerciſe themſelves in the Art of Reaſoning and Informing their Judgment. But this Art, which, in its own Nature, is equally proper for all the Sciences, not having been us'd, during ſo long a time, by any but Divines, whoſe Sentiments are entirely captivated and ſubjected to* ancient *Deciſions, had ſo loſt the Habit of uſing that Liberty, which is neceſſary in curious Reſearches, that ſeveral Ages were paſt before we were able to reaſon in humane Sciences, otherwiſe than is done in Divinity. And this was the Reaſon why formerly the Learned had no other Aim in their Studies, than to find out the Opinion of the* Ancients, *accounting it far greater Honour to have found the true Sence of a Text of* Ariſtotle, *than to have diſcover'd the Truth of the Thing treated of in that Text.*

This Spirit of Submiſſion in the Manner of learning and treating of the Sciences and Arts, is ſo nurs'd up, and fortified, by the natural Docility of Men of Letters, that 'tis very difficult to lay it aſide; and we can hardly accuſtom ourſelves to make that Diſtinction, which there is, between the Reſpect due to Things ſacred, and to thoſe that are not ſo; which we may be permitted to examine, criticize upon, and cenſure with modeſty, when we endeavour to find out the Truth; and in which, we contemplate no Myſteries, of like Nature with thoſe that Religion propoſes to us, and which we wonder not, in the leaſt, to find incomprehenſible.

As Architecture, as well as Painting and Sculpture, has been often handled by Men of Letters, ſo it has been govern'd by this Humour more than the other Arts; they have taken all their Arguments from Authority, imagining that the Authors of the admirable Works of Antiquity, *did nothing but for good Reaſons, though we cannot find them out.*

But thoſe who will not allow that the Reaſons which cauſe thoſe beautiful Works to be admir'd, are incomprehenſible, after having examin'd all that belongs to this Subject, and been inſtructed by the moſt able Perſons; will be convinc'd, if they conſult good Senſe, that 'tis no great Abſurdity to think that thoſe Things, for which no Reaſon can be found, are really without any that contributes to their Beauty, and that they have no other Foundation than Chance, and the Humour of the Workmen, who ſought for no Reaſon to guide

guide them in the Determination of thoſe things, the Preciſeneſs of which, was of no Importance.

I know very well, that, notwithſtanding all I can ſay, this Propoſition will hardly go down, but will paſs for a Paradox that may probably meet with much Oppoſition, and that even from ſome well-meaning Perſons, who ſincerely believe that the Glory of Antiquity *lies at Stake, which they are fond of having reputed infallible, and inimitable, poſſibly becauſe they have never ſufficiently ſtudied the Point, and many others may think themſelves concern'd, who know very well what they do, when they make uſe of this blind Reſpect for the Works of* Antiquity, *to conceal the Deſire they have, that the Things of their Profeſſion ſhould ſeem to have Myſteries, of which, they themſelves are the only Expoſitors.*

But as my Intention is not, even though I ſhould prove and demonſtrate this Paradox, to make any other Advantage of it, than to get leave to change ſome Proportions, which differ from the Antique *in Things only inconſiderable, and of ſmall Importance; I hope it will not be taken amiſs, eſpecially having declar'd that I admire and reſpect the Works of the* Antique *Architecture, as they really deſerve, and if I ſpeak of them differently from others, my Deſign is only to obviate ſome Objections, which the too ſcrupulous Admirers of paſt Ages may make to me, upon the Inconvenience they find in not following, in every thing, the Examples of theſe great Maſters, and upon the Danger I expoſe my ſelf to, of not being credited in what I propoſe new.*

For thoſe that do not intend to wrangle, nor make an ill Uſe of the Authority of Antiquity, *will not employ its Power in things needleſs, as the Bigneſs of an Aſtragal, the Height of a Corona, or the exact Dimenſions of a Dentel; the Preciſeneſs of theſe Proportions not being that which makes the Beauty of the* Antique, *nor the Change of them, of an Importance comparable to that of having the Proportions truly adjuſted, in all the Members, of which the Orders are compos'd, for the eſtabliſhing an eaſie and convenient Method.*

As to the Succeſs of my Deſign, if it does not take, I ſhall not be much concern'd at the Misfortune, being the ſame that has befallen the moſt illuſtrious

ſtrious perſons, ſince neither Hermogenes, Callimachus, Philo, Cteſiphon, Metagenes, Vitruvius, Palladio *nor* Scamozzi, *with all their great Ability, could obtain ſuch Approbation as to have their Precepts receiv'd for the Rules of the Proportions of Architecture. If it be objected that the Method I propoſe, ſhould it even be approv'd, was not any thing difficult to be found out; that I make little or no Alteration in the Proportions; and that there is ſcarce any of them but what is found in ſome of the Works of the* Ancients *and* Moderns; *I freely own I have invented no new Proportions: but this is my Satisfaction, that I have no other Deſign, in this Work, than to ſhew, that, without Offence to the Idea Architects have of the Proportions of each Member, they may all be reduc'd to Meaſures eaſily commenſurable, which I call probable, there being great Reaſon to think, that the firſt Inventors of the Proportions of each Order, did not make them ſuch as we find in the* Antique, *where they only come near theſe Meaſures eaſily commenſurable; but that they made them actually juſt, and that, for Inſtance, they gave not the* Corinthian *Column nine Diameters and an half; ſixteen Minutes and an half, as it is in the Porch of the* Pantheon; *nor ten Diameters eleven Minutes, as it is in the three Columns of the* Forum Romanum: *but that they made them exactly ſometimes nine Diameters and an half, ſometimes ten; and that the Negligence of the Workmen of the* Antique *Remains, is the only real Cauſe of the Defect in theſe Proportions that they are not exactly according to the true ones, which, it's reaſonable to believe were eſtabliſh'd by the firſt Inventors of Architecture.*

I do not ſee what can be ſaid againſt this Opinion, becauſe I neither know, nor believe it poſſible for any one to diſcover, the Reaſons which induc'd Architects to uſe broken and difficult Proportions, without any Neceſſity, and to affect the changing of the Ancient *ones, which were eaſie, conſiſting of entire Numbers. Why, for Example, the* Ancients, *before* Vitruvius, *having always given to the Plinth of the* Attic *Baſe, the third of the whole Baſe, the Architect of the Theatre of* Marcellus, *ſhould add one Minute and a quarter to this Third, which is of ten Minutes; and why, the* Ancients *having always made the* Doric *Architrave equal to the Semi-diameter of the Column, the Architect of the Baths of* Diocletian, *ſhould think fit to add a fifth Part more, and* Scamozzi *a ſixth, and in fine, upon what myſterious Account it is, that, in the Porch of the* Pantheon, *there are ſcarcely found two Columns of the ſame Diameter. Nor do I believe it poſſible to*

gueſs why Scamozzi has aſſign'd in his Ordonance of Architecture, Proportions ſo intricate, that 'tis not only difficult to remember, but even to comprehend them.

I may ſay then, that if the Changes of Proportions, which the Architects, ſince Vitruvius, have introduc'd, are without any Reaſon, that is known to us, I have cauſe to think, thoſe, which I propoſe, will appear to be founded upon clear and evident Reaſons, ſuch as the Eaſineſs of making and remembring the Diviſions: and that what I add new, is not ſo much to correct the Antique as to endeavour to re-eſtabliſh it in its priſtine Perfection; which I do not pretend to do by my own Authority, nor by any Knowledge peculiar to my ſelf, but always grounding my Sentiments on ſome Examples taken from the Antique Works, or from approv'd Writers; and rarely making uſe of Reaſons and Conjectures, which Privilege, however, I think ſhould not be denied me, in regard I propoſe them with an entire Submiſſion to the judicious, who will be at the Pains to examine them.

For after all, my Opinion is, that if the Works we have of the Antique, are like the Books from whence we muſt learn the Proportions of Architecture, theſe Works are not the Originals made by the firſt and real Authors, but only Copies differing from one another, and of which ſome are faithful and correct, in one thing, and ſome in another: ſo that, in Architecture, to reſtore the true Sence of the Text, if I may ſo ſpeak, it's neceſſary to ſearch theſe different Copies, which being approv'd Works, muſt each contain ſomething correct and faithful, the Choice of which ought manifeſtly to be founded upon the Regularity of Diviſions, not broken without Reaſon, but eaſie and commodious, as they are in Vitruvius.

For as to any Doubt that may be made, whether the Works of the Antique are defective Copies, and different from the firſt Originals, as to Proportions, I believe that is ſufficiently made out to be juſt and allowable, by the Reaſons and Conjectures throughout this Preface, wherein I have endeavour'd to prove that the Beauty of the Antique Works, as admirable as it is, is not ſufficient to make us conclude, that the true Proportions were obſerv'd in them, having ſhewn that the Beauty of Structures does not conſiſt in the Exactneſs of theſe true Proportions, ſince it's plain, ſomething may be omitted without impairing the Beauty of the Work; and it's poſſible, that were

theſe

theſe true Proportions obſerv'd, it might not be more agreeable if deſtitute of other Parts, in which, the real Beauty conſiſts; ſuch as, amongſt other things, are the Manner of deſcribing agreeably the Out-lines and Profils, and the Art of diſputing with Judgment, all the Parts that make the Characters of the ſeveral Orders: which is, as has been ſaid, the ſecond Part, which being join'd with Proportion, comprehends all that belongs to the Beauty of Architecture.

After having explain'd in general, the Reaſons that may authorize the Liberty I have taken to propoſe ſome Change in the Proportions of the Orders, and reſerving for the following Treatiſe, the Particulars of each Alteration; it remains, that I give the Reaſons why I change ſomething likewiſe in the Characters which diſtinguiſh the Orders; which is ſtill a greater Licence than that which touches Proportions, becauſe this Change is moſt eaſily diſcover'd, the Eye alone, without Rule or Compaſſes, being capable of perceiving it.

Thoſe that are of Opinion there is no Reaſon can juſtifie any Change of thoſe Rules, which they ſuppoſe were eſtabliſh'd by the Ancients, *may alſo take the Liberty to deride my Arguments, and cenſure the Raſhneſs of my Deſign: but I make no Appeal to ſuch, there being no diſputing with thoſe that deny Principles; and I hold it for one of the chief in Architecture, as well as in all other Arts, that none of them being brought to the higheſt Perfection, there is cauſe to think, that, if that be unattainable, we may, at leaſt, approach nearer to it by diligent Search; and thoſe who believe it not impoſſible, ought rather to pretend to it than thoſe that are perſuaded of the contrary.*

The Orders of Architecture are employed in two Sorts of Works, either in Structures built actually for Service, ſuch as Churches, Palaces, and other publick and private Buildings, which require Ornaments and Magnificence; or in hiſtorical Repreſentations, where there is need of Architecture, ſuch as are made in Painting, Sculpture, or in the Machines of Theatres, Entries of Princes, Balls and Carrouſels. In performances of this latter Sort, 'tis certain the Ancient *Architecture ought punctually to be followed in all its particular Circumſtances, and that for Inſtance, in the Repreſentation of the Story of* Theſeus, *or of* Pericles, *if the* Doric *Order be made uſe of, the Columns*

ſhould

ſhould have no Baſes; if the Ionic, *the great Torus ought to be on the uppermoſt part of the Baſe, and if the* Corinthian *be employed, the Capital ought to be ſquat, the Abacus ſharp at the Horns, and the Cornice without Modillions. But when we deſign an Order for a Building, now to be erected, I do not think ſo ſcrupulous an Imitation of the* Antique *to be neceſſary, and as we could not approve the Deſign of an Artiſt, who, in writing the Words of a Medal of the King, or an Inſcription dated in ſixteen hundred eighty three, ſhould uſe the ſame Characters we ſee on the* Antique Roman *Medals, which are different, and have nothing of the Beauty of the* Roman *Characters, now ſo much improv'd and in uſe; ſo I think we ought not to blame an Architect who curiouſly obſerves and follows the Changes which the moſt skilful in his Art have introduc'd with Reaſon and Judgment, and even with Approbation.*

There are none of thoſe who have wrote of the Orders of Architecture, that have not added and corrected ſomething in what they pretend the Ancients *eſtabliſh'd, as Rules and Laws inviolable: and theſe Writers, who, except* Vitruvius, *are all* Moderns, *have followed the Examples of the* Ancients *themſelves, who, inſtead of Books, have left us Works of Architecture, in which every one has put ſomewhat of his own Invention: Now theſe Novelties have been always conſider'd as the Effect of that Pains and Study, which Perſons of an inventive Genius have taken for completing thoſe things which the* Ancients *left with ſome Imperfection: for though ſome of theſe Innovations have not met with Approbation; there are, nevertheleſs, ſo great a number receiv'd and follow'd, even in things very conſiderable, as plainly ſhew, that Alterations of this kind, are, in themſelves, not only no raſh Undertaking, but even, that a Change for the better, is no ſuch difficult thing, as the paſſionate Admirers of* Antiquity *would make us believe.*

The Baſes we call Ionic, *which were the only ones in uſe, amongſt the* Ancients, *for all the Orders that had Baſes, were ſo generally diſlik'd by the Architects that came after* Vitruvius, *that they ſcarcely ever made uſe of them. The* Ionic *Capital has been found inconvenient and diſagreeable by a Change of Taſt ſo univerſal, that there is no Room to doubt but the Diſlike of it has ſome Foundation in Reaſon. The* Ionic *Capital, which* Scamozzi *has ſubſtituted of his own Invention, inſtead of the* Antique, *has*

has not only been ſo well receiv'd, that, at preſent, ſcarce any other is made to this Order; but our Architects, ſince Scamozzi, *have introduc'd Alterations in this Capital, which have brought it much nearer Perfection, as ſhall be explain'd in its proper Place. The ſame may be ſaid of the* Compoſite *Capital, which is no other than the* Corinthian *Capital corrected and redreſs'd: for that too has lately receiv'd the Perfection it wanted, not only in the* Antique, *but alſo in all the* Modern *Authors who have treated of the Orders.*

I may, then, have reaſon to hope, that my Deſign, in this Work, which, to many, may ſeem ſomewhat too daring, will not appear altogether ſo raſh an Undertaking, to thoſe who conſider that I propoſe nothing which has not illuſtrious Examples and Authors. If any one, for this Reaſon, pretend to ſay that my Book contains nothing new, ſince the Changes, as well in the Proportions, as in the Characters of the Orders, have been practis'd in all times; I readily grant it, and declare, that my Aim is only to extend this Change a little further than has been hitherto done; to ſee if, by attempting to perſwade thoſe of more Knowledge and a greater Genius, than I have, to endeavour the good Succeſs of a Deſign ſo uſeful and reaſonable, I might be the Cauſe of giving, the Rules of Architecture, that Preciſeneſs, Perfection, and Eaſineſs to be remembred, which they wanted.

This Work is divided into two Parts: In the firſt, I lay down the general Rules of the Proportions common to all the Orders, ſuch as are thoſe of the Entablatures, the Heights of Columns, Pedeſtals, &c. ſhewing that theſe Meaſures are either equal, as in the Height of all the Entablatures, or that they go increaſing by equal Proportions: In the ſecond Part, I determine the Size and particular Characters of the Members, of which the Columns, in all the Orders, are compos'd; which I do by the Examples I produce, both of Antique *Works, and* Modern *Writers. Now, though the Truth of what I mention of the* Antique, *be a Thing more difficult to be prov'd, than what I have taken from the* Moderns, *the Book which Monſ.* Deſgodets *has lately printed of the* Ancient *Buildings of* Rome, *will be a great Aſſiſtance to ſuch Readers as are curious to be inſtructed in theſe things, as it was very ſerviceable to me in finding preciſely the different Proportions, which that Architect has taken with the greateſt Exactneſs.*

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II. *Of the Meaſure which regulates the Proportions of the Orders.*

III. *Of the general Proportion of the three principal Parts of entire Columns.*

IV. *Of the Height of Entablatures.*

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IX. *Of the Projecture of the Baſe of Columns.*

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PART II.

CHAP. I. *OF the* Tuſcan *Order.*

II. *Of the* Doric *Order.*

III. *Of the* Ionic *Order.*

IV. *Of the* Corinthian *Order.*

V. *Of the* Compoſite *Order.*

VI. *Of Pilaſters.*

VII. *Of the Abuſes of the Change of Proportions.*

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THE

THE ORDONANCE of the FIVE KINDS of COLUMNS, After the METHOD of the *ANCIENTS*.

PART I.

Of Things common to all the ORDERS.

CHAP. I.

What Ordonance, and an Order of Architecture is.

ORDONANCE, according to *Vitruvius*, is that which regulates the Size of all the Parts of a Building, with reſpect to their Uſe. Now, by the Parts of a Building, are underſtood, not only the Pieces, of which it is compos'd, ſuch as a Court, a Veſtible, or a Hall; but alſo thoſe which go to the Conſtruction of each of them, ſuch as intire Columns, in which are comprehended the Pedeſtal, the Column, and the Entablature, conſiſting of the Architrave, Freeze, and Cornice, which are all I treat of here, and of which, Ordonance directs the Proportions, giving each, Dimenſions proper to the Uſes for which they are deſign'd; as that of being more or leſs ſtrong, and fit to

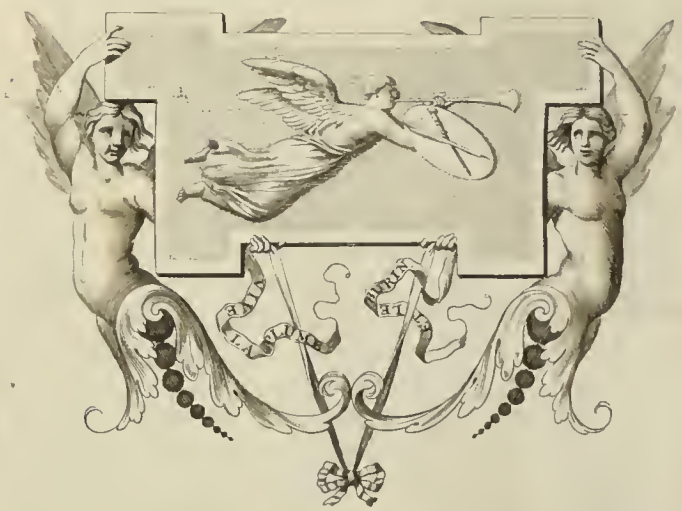
Chap. I. ſuſtain a great Weight, or more or leſs capable of receiving thoſe delicate Ornaments, either of Sculpture or Mouldings, wherewith they may be enrich'd: for the Ornaments and Imbelliſhments belong alſo to the Ordonance; and give even more viſible Characters, to deſign and regulate the Orders, than the Proportions do; in which, however, according to *Vitruvius*, the moſt eſſential Differences of the Orders conſiſt.

An Order of Architecture, then, is that which is regulated by the Ordonance, when it preſcribes the Proportions of intire Columns, and determines the Figure of certain Parts which are proper to them, according to the different Proportions which they have. The Proportions of Columns, take their Differences from their Heights, greater or leſſer, compar'd to their Thickneſs; and the Form of the particular Members, proper to their Proportion, takes its Differences from the Plainneſs, or Richneſs, of the Ornaments of their Capitals, of their Baſes, of their Flutings, and of the Modillions, or Mutules, which are in their Cornices.

Thus, in the three Orders of the *Ancients*, which are the *Doric*, *Ionic*, and *Corinthian*; the *Doric*, which is the moſt maſſy, has, in all its Parts, a Groſneſs and Plainneſs, that diſtinguiſhes it from the others: for its Capital has neither Volutes, nor Leaves, nor Stalks: the Baſe, when it has one, is compos'd of very thick Tores, without Aſtragals, and with only one Scotia; its Flutings are flat, and fewer in number than in the other Orders, and its Mutules are no more than a plain Block, without any Scroul or Foliage. On the contrary, the *Corinthian* has, in its Capital, ſeveral delicate Ornaments, which Sculpture beſtows on it, cutting two Rows of Leaves, from which, proceed Stems or Stalks cover'd by Volutes: its Baſe is inrich'd with two Aſtragals, and a double Scotia: its Modillions are delicately carv'd in Scrouls, adorn'd with Leaves, like thoſe of the Capital. The Ornaments, of the *Ionic* Order, hold a Mean between the Extremes of the two others; its Baſe having no Torus next the Plinth, its Capital no Leaves, and its Cornice only Dentels inſtead of Modillions.

The *Moderns* have added to the three Orders of the *Ancients*, two others, whoſe Ordonance they have regulated, in proportion to that of the *Ancient* Orders, for they have made one which they call the *Tuſcan*, more groſs and plain even than the *Doric*, and one call'd the *Compoſite*, which they have made more compounded than the *Corinthian*, its Capital being made up of that of the *Corinthian*, whence it has its Leaves, and of that of the *Ionic*, of which it has borrow'd the Volutes, as we may ſay, that the *Corinthian* is compos'd of the *Ionic*, whence it has the two Scotias, and the Aſtragals, in its Baſe, and of the *Doric*, having, in its Capital, a Neck or Vaſe, which

which is not in the *Ionic*. Theſe two Orders are taken from *Vitruvius*, who has preſcrib'd the Proportions of the *Tuſcan*, but has not put it into the Number of the Orders; and who has given the Invention of the *Compoſite*, when he ſays that the Capital of the *Corinthian* Column, may be chang'd into it, by making one, whoſe Parts ſhould be taken from the *Ionic* and *Corinthian* Capitals: but he ſays further, that this Change of the Capital, ought not to eſtabliſh a new Order, becauſe the Proportion of the Column is not chang'd; this Capital being of the ſame Height with that of the *Corinthian*, which makes an Order different from the *Ionic*, by reaſon its Capital, leſs than the *Corinthian*, renders the whole Column ſhorter. By which, we may perceive, that, according to *Vitruvius*, the Proportion is more eſſential to determine the Orders, than are the particular Characters of the Figure of their Parts.



CHAP. II.

Of the Meaſure which is to regulate the Proportions of the Orders.

FOR determining the Meaſures, which make the Proportions of the Members, whereof, Columns are compos'd, and in which, conſiſts the principal Difference of the Orders; Architects have made uſe of two Ways. The firſt is, that they take a fix'd and certain Meaſure, which is either mean, or very ſmall, they uſe the Mean, which is the Diameter of the lower Part of the Column, call'd a Module, when they would regulate ſuch Meaſures, as much exceed that of the Diameter or Module; as for example, in taking eight or nine Diameters for the Height of the Column, and two, three or four, for the Intercolumnation. The ſmalleſt Meaſure, which is call'd a Part or Minute, and which is uſually the ſixtieth Part of the Module, is made uſe of to determine thoſe Meaſures that are leſs than the Module: as in giving ten Minutes to the Plinth of the *Attic* Baſe, ſeven and a half, ſeven and a half to the greater Torus, five to the leſſer, *&c.*

IN the ſecond Method, there is no uſe made of Minutes, nor of other certain and ſtated Portions of the Module, but the Module, or other Meaſures, determin'd by the Module or otherwiſe, is divided into as many equal Parts as is neceſſary: thus the Height of the

Attic

Attic Baſe, which is half the Module. is divided either into three, to have the Height of the Plinth, or into four, for that of the greater Torus, or into ſix for that of the leſſer.

Both theſe Manners have been practis'd, as well by the *Ancient* as *Modern* Architects: but the ſecond, which the *Ancients* generally uſed, is, in my Opinion, preferable to the other, not ſo much for that it always ſuppoſes the Relation, which the whole has to its Parts; for I do not think that any thing ariſes from thence, that can affect the Eye with Delight, there being nothing properly, but the Agreement of Order, or Equality, that can be pleaſing to the Sight, becauſe, other Proportions are not alike obvious to it. But that which I think the Method of the *Ancients* the better for, is the Help it affords the Memory to retain the Meaſures, becauſe it is founded upon a Reaſon, capable of producing what we call Remembrance, whoſe Effect is much more certain than that of the bare Apprehenſion of the Memory. For, when we once know that the third Part of the *Attic* Baſe is the Height of its Plinth, the fourth Part that of its under Torus, and the ſixth Part that of the other Torus, 'tis almoſt impoſſible to forget the Proportions of this Baſe; But it is not ſo of the ten, ſeven and a half, and five Minutes; which are the Meaſures of the Parts of this Baſe; by reaſon, the Proportions, that theſe Numbers have one to the other, are no otherwiſe known, and eaſie to be retain'd in Memory, than becauſe ten is the third Part, ſeven and a half the fourth, and five the ſixth Part of thirty Minutes, which is the Height of the whole Baſe.

What has oblig'd the *Moderns* always to make uſe of the ſame Minutes, is the Neceſſity, they often had, to denote Meaſures that hold no Proportion, either with the Meaſure of the entire Module, or that of the other Parts; as when the Plinth of the *Attic* Baſe, inſtead of ten Minutes, has but nine and a half, or when it has ten and a half: and thus they were oblig'd to do, becauſe they only propos'd to give the Meaſures of the Works that remain of the *Ancients*, which, probably, not being the true Originals, had not that juſt Preciſeneſs of Proportions, which the firſt Inventers gave them: there not being any Appearance of Reaſon, why they ſhould come ſo near a juſt Diviſion, without making it exact.

As I intend not, in this Work, to lay down the Proportions, otherwiſe than by Meaſures, which have all relation each to other, and to come, as near as poſſible, to the true ones eſtabliſh'd by the *Ancients*; I ſhall uſe no other than their Manner of Meaſuring. As *Vitruvius*, then in the *Doric* Order, has leſſen'd the Module, which, in the other Orders, is the Diameter of the lower Part of the Column, and has reduc'd this great Module to a mean one,

Chap. II. which is the Half-Diameter; I here reduce the Module to the third Part for the ſame Reaſon *Vitruvius* had, namely, the Conveniency of determining thereby, ſeveral Meaſures without a Fraction: for in the *Doric* Order, beſides that the Height of the Baſe, as in the other Orders, is determin'd by one of theſe mean Modules; the ſame Module gives likewiſe the Heights of the Capital, Architrave, Triglyphs and Metops. But our little Module, taken from the Third of the Diameter of the lower Part of the Column, has Uſes much more extenſive; for by this, the Heights of Pedeſtals, of Columns, and of Entablatures, in all the Orders, are determin'd without a Fraction.

As then, the great Module, which is the Diameter of the Column, has ſixty Minutes, and the mean Module thirty, our little Module has twenty; ſo that the great Module contains three little ones; the mean Module one and a half, two great Modules make ſix little ones, two mean ones make three, *&c.* as may be ſeen in the following Table.

The Table of the Modules.

Great Module.	Min.	Mean Module.	Min.	Little Module.	Min.
I. contains	60	I. contains	30	I. contains	10
				II.	20
		II.	60	III.	60
II.	120	III.	90	IV.	80
				V.	100
		IV.	120	VI.	120
III.	180	V.	150	VII.	140
				VIII.	160
		VI.	180	IX.	180
IV.	240	VII.	210	X.	200
				XI.	220
		VIII.	240	XII.	240
V.	300	IX.	270	XIII.	290
				XIV.	280
		X.	300	XV.	300

What

WHAT is uſually call'd a Part, which is the thirtieth Part of the Semi-diameter of the Column, ſhall, in this Treatiſe, be always call'd a Minute, to avoid any Doubt, which the Name of Part might occaſion, becauſe it ſignifies here, not a certain Part, ſuch as the Name of Minute implies; but a Quota, that is to ſay a Third, a Fifth, &c. of another Part.

CHAP. III.

Of the general Proportion of the three principal Parts of entire Columns.

THE entire Columns, in every Order, are compos'd of three principal Parts. which are the Pedeſtal, the Column, and the Entablature. Each of theſe Parts is again compos'd of three others: The Pedeſtal having its Baſe, its Die or Trunc, and its Cornice. The Column has its Baſe, its Shaft, and its Capital: And the Entablature conſiſts of the Architrave, Freeze, and Cornice. The Heights of theſe three principal entire Parts, are determin'd by a certain Number of the little Modules; for as the Entablatures, in all the Orders, are always equal, according to my Suppoſition, each has ſix little Modules, which make two Diameters, or great Modules. But the Height of the Pedeſtal, being different in each Order, as well as that of the Column, theſe Parts always go increaſing by equal Proportions, according as the Orders are lighter, and leſs maſſive. This Augmentation is conſtantly of one Module, in the Pedeſtals; and of two in the Columns: So that the *Tuſcan* Pedeſtal, which is equal to its Entablature, has ſix Modules, the *Doric* ſeven, the *Ionic* eight, the *Corinthian* nine, and the *Compoſite* ten.

So likewiſe the Columns, with their Baſe and Capital, having their Augmentation, as I ſaid before, of two Modules, it follows that the *Tuſcan* having twenty-two Modules, the *Doric* has twenty-four

four, the *Ionic* twenty-ſix, the *Corinthian* twenty-eight, and the *Compoſite* thirty.

Lastly, the Proportions of the three Parts, which compoſe the Pedeſtals, are alſo equal in all the Orders, for the Baſe is always the fourth Part of the Pedeſtal, and the Cornice the eighth Part; the Socle, or Plinth of the Baſe, has always two Thirds of the Baſe itſelf, and thence it follows, that the Height of the Die, is what remains of the whole Height of the Pedeſtal, which is already determin'd.

The Column has likewiſe its Baſe of the ſame Height, in all the Orders: namely, of one Module and a half, which is half the Diameter of the lower Part of the Column. The Capitals are alſo of the ſame Height in the *Tuſcan*, and in the *Doric* Order, being equal to that of the Baſe. In the *Corinthian* and *Compoſite*, it is likewiſe equal, being three Modules and a half. The *Ionic*, only, has a Proportion, which is particular to it ſelf.

The Heights of the Parts of the Entablatures, have their Proportions leſs regular: what they have in common, is, that in all the Orders, except the *Doric*, the Entablatures have the Architrave and Freeze, both of the ſame Height, theſe Parts being each of ſix Twentieths of the whole Entablature, and the Cornice of eight Twentieths; but as for the *Doric* Order, that has neceſſarily its Proportions by it ſelf, which are regulated by the Trigliphs and Metops.

As to the Breadths, or Projectures, they are determin'd by Parts of the little Module, divided into five; ſo that, for Example, the Diminution of the Columns, is always one of theſe Fifths, the Projecture of the Cincture, at the Bottom of the Column, is alſo one Fifth, taken from the Naked of the lower Part of the Column; the Projecture of the Baſe is three of theſe Fifths, and ſo of the reſt. Now this fifth Part contains four Minutes.

The Explication, and Proof, of all theſe Proportions, will appear in the following Chapters.

CHAP. IV.

Of the Height of Entablatures.

HERE is nothing in which Architects are leſs agreed, than in the Proportion of the Heights of Entablatures, with reſpect to the Thickneſs of the Columns: for there is ſcarce any Work, either of the *Ancients* or *Moderns*, where this Proportion is not different; there being ſome Entablements near twice as high as others, as is manifeſt by the Entablature of *Nero*'s Frontiſpiece, compar'd with that of the Temple of *Veſta* near *Tivoli*.

THIS Proportion, however, ought, of all others, to be beſt regulated, none being of greater Importance, nor more ſhocking when it is unreaſonable; becauſe its Defect is more eaſie to be perceiv'd than any other. 'Tis certain, that among the Rules of Architecture, the principal are thoſe that appertain to Solidity or Strength; and that there is nothing, which more deſtroys the Beauty of a Building, than, when, in the Parts which compoſe it, we find Proportions contrary to what ought to eſtabliſh this Solidity, as when the Parts appear not capable to ſuſtain what they bear, nor to be born by that which ſuſtains them. Now this is principally remarkable in Entablatures and Columns, the Thickneſs of Columns, being that which renders them capable of bearing, as the Height of Entablatures, proportion'd to this Thickneſs, is what renders, and makes them appear capable of being ſuſtain'd. Whence it follows that the

Height of Entablatures ought to be govern'd by the Thickneſs of the Columns; and that if it were neceſſary, there ſhould be ſome Diverſity in the Entablatures of the different Orders, where Columns, of an equal Thickneſs, are ſome longer than others, the leaſt Height ought to be given to thoſe Entablatures where the Columns are longeſt, by reaſon, the Length of a Column, both renders it weaker, and makes it appear ſo. Nevertheleſs, we find the contrary practic'd by the Architects of *Antique* Structures, where the Entablatures are much higher, in proportion to the Thickneſs of the Column, in the Orders where the Columns are longeſt, as in the *Corinthian* and *Compoſite*, than in the *Doric* and *Ionic*, where they are ſhorter.

In the three Sorts of Architecture, which are the *Antient*, taught us by *Vitruvius*, the *Antique*, which we ſtudy in the Works of the *Romans*, and the *Modern*, of which Books have been writ within theſe ſix-ſcore Years; we find that *Vitruvius*, and the greateſt Part of the *Moderns*, have, in regard to the Proportions of Entablatures, held an Exceſs, quite oppoſite to the Architects of the *Antique*, who have made Entablatures of a Size that ſeems utterly inſupportable, ſuch as are thoſe of the Frontiſpiece of *Nero*, and the three Columns of the *Forum Romanum*, commonly called *Campo Vaccino*; the *Moderns*, again, having made them too mean and pitiful, ſuch as *Bullant* and *De Lorme* have form'd from the Precepts of *Vitruvius*, which are not half ſo large as thoſe of the *Antique*. So that it ſeems, that the *Romans*, who were the Authors of the *Antique*, finding the Entablatures of the *Antient* Architecture, propos'd by *Vitruvius*, to be too ſmall, intending to correct this Defect, fell into the contrary, and poſſibly as bad an Extreme: and that ſome of the *Moderns*, perceiving this Exceſs, went back again to the *Ancient* Manner; whereas, they ought rather to have approv'd of the Deſign the *Romans* had to redreſs the Fault of the *Ancients*, and have contented themſelves with condemning only their Exceſs.

Some, inquiring into the Cauſe of this great Diverſity of the Height of Entablatures, have told us that the different Size of Buildings, and the Nature of the Orders, which are ſome more, ſome leſs maſſive, might occaſion this Change of Proportion, eſpecially, ſince *Vitruvius* has given Rules, according to which, a Column of twenty-five Feet, ought to have its Architrave a twelfth Part higher than a Column of fifteen. But 'tis evident, that Architects have had no regard to this Reaſon, ſince they have made Entablatures to little Columns, larger, in proportion, than to great ones; as may be ſeen in the *Pantheon*, where the Columns of the Altars, are but a fourth Part as big as thoſe of the Portico, and yet have their Entablatures much larger in proportion. Nor have they better obſerv'd

Chap.IV obſerv'd the Proportion of the Orders, ſince the more maſſive, ſuch as the *Tuſcan* and *Doric*, which on that account, ought to have their Entablatures greater, have them leſs, in proportion, than the *Corinthian* and *Compoſite*.

I ſhall not pretend to make my ſelf Judge of a Difference between ſo great Perſons, and if I deliver my Opinion upon this Head, and on the reſt of the Proportions, which we find to have been practis'd; I deſire my Judgment may paſs for no other than what the Lawyers call *Judicium Ruſticum*, which is given, where the Cauſe is ſo perplex'd, that the moſt diſcerning Judges cannot penetrate into the Merits of it, but decide the Buſineſs by dividing the Thing contended for into Halves. For I think, ſince there is nothing that declares the Reaſon of this great Diverſity, we can no other way eſtabliſh a certain Rule with any Probability, than by keeping a Medium, taking a Meaſure that has ſome Relation to that of the Column, ſuch as is the Double of its Diameter, which is alſo equally diſtant from the Extremes we find in the Works of the *Antique*.

For if any one ſhould object to me, that there are Authors and Works, where the Meaſures are leſs than what I propoſe, I would oppoſe other Authors and Works as Authentic, where they are larger. Let it, therefore, be remembred for the future, that 'tis for this Reaſon, I always take for the Rule and Meaſure of the Parts, that which is the Mean, and as near as may be equally diſtant from the Extremes, which we find in the Authentic Examples I produce; not thinking my ſelf oblig'd to the Preciſeneſs of a few Minutes, when I am endeavouring to reduce the Meaſures to their juſt Proportions, and to whole and unbroken Numbers.

The following Table has five Columns, for the five Orders, in each of which I ſet down the Number of Minutes, that the Entablatures, whoſe Examples I bring, have more or leſs than the ſixſcore Minutes, which contains the two Diameters, or ſix little Modules, which I give to all the Entablatures. For this makes it evident that if there are ſome Entablatures leſs than what I propoſe, as are that of the Temple of the *Sybil*, which is leſs by twenty-one Minutes, that of *Vignola*, which is leſs by thirty, and that of *Bullant*, which is leſs by thirty-ſeven; there are, alſo, others larger, as that of the three Columns of the *Forum Romanum*, which has thirty-ſix Minutes more, and that of the *Coliſeum*, which has twenſix.

Table

The TABLE of ENTABLEMENTS.

Tuscan.	Min.		*Doric.*	Min.		*Ionic.*	Min.		*Corinthian.*	Min.		*Composite.*	Min.	
Vitruvius	15	less.	*Coliseum*	26	more.	T. of *F. V.*	18	more.	T. of *Peace*	8	more.	A. of *Lions*	34	more.
Scamozzi	11		*Scamozzi*	27		*Vignola*	18		P. of *Sept.*	12		*Serlio*	30	
Vignola	15		*Vitruvius*	15		Th. of *M.*	25		*De Lorme*	19		*Vignola*	30	
Palladio	16		*Bullant*	15		*Coliseum*	26		M. of *Ner.*	24		*Sept.* Arch	19	
Serlio	3		*Serlio*	13		*Palladio*	11		3 Columns	36		*Titus* Arch	19	less.
			Palladio	12	less.	*Serlio*	13		Tr. of *Nero*	47		T. of *Bacc.*	2	
			Vignola	10		*Scamozzi*	15	less.	*Scamozzi*	0		*Palladio*	0	
			Barbaro	8		*De Lorme*	16		*Palladio*	6		*Scamozzi*	3	
			Th. of *M.*	7		*Vitruvius*	19		*Vignola*	12	less.			
			De Lorme	5		*Bullant*	37		*Serlio*	14				
									Vitruvius	19				
									T. of *Sybil*	21				

It also appears, by this Table, that the *Tuscan* is the only Order to which Authors have given less than the two Diameters I allow it: and I believe no good Reason can be given why it should be so, since the *Doric* has sometimes an Entablature greater than the *Ionic*, *Scamozzi* having given that, even twenty-seven Minutes more than the hundred and twenty; and the greatest Entablement we find in the *Ionic*, being that of the Theatre of *Marcellus*, exceeds the hundred and twenty Minutes but by twenty-five. And it were more reasonable to give a greater Entablature to the *Tuscan*, than to the *Doric* Order, on account of the Thickness and Strength of the *Tuscan* Column, arising from its Shortness, in proportion to its Thickness, as has been already said.

CHAP. V.

Of the Length of Columns.

IT is no leſs difficult to give a Reaſon for the Diverſity of the Lengths, which Architects have given to Columns of the ſame Order, than for the Difference of the Heights of their Entablatures in the ſeveral Orders. *Vitruvius* makes the *Doric* Columns of Temples ſhorter than thoſe of the Porches behind Theatres, without giving any other Reaſon than that they ought to have more Majeſty in Temples than any where elſe. *Palladio*, who ſeems to have practic'd the ſame thing, in giving a greater Height to Columns which ſtand on Pedeſtals, than to thoſe which have none, has done it ſtill with leſs Reaſon: for it ſeems altogether needleſs to lengthen Columns, whoſe Pedeſtals are already a ſort of Lengthning. *Serlio*, who makes his Column a Third ſhorter when it ſtands detach'd, than when it does not, has taken a Liberty he has no Precedent for; and the Reaſons he gives, why ſuch a Column ſhould be ſtronger than another, are good, but he miſapplies them: for ſince we may remedy the Weakneſs of inſulate or detach'd Columns, by placing them nearer together, I can't ſee why we ſhould have Recourſe to the Change of Proportions, without ſome greater Neceſſity.

NOTWITHSTANDING the great Diverſity of Length that Columns have in the ſame Orders, according to different Authors, they ſtill have a like Proportion in the ſeveral Orders, compar'd

each

each with other, by which they go increaſing according as the Orders are leſs maſſive: But this Augmentation is greater in ſome Ordonances than in others. For in the *Antique*, it is but of five Modules, or Semi-Diameters, for the five Orders; the ſhorteſt Column, which is the *Tuſcan*, having fifteen Modules, and the longeſt, which is the *Compoſite*, having twenty. In *Vitruvius*, this Increaſe is alſo of five Modules, but it riſes from fourteen Modules to nineteen. The *Moderns* have made it greater, for in *Scamozzi*, it is five Modules and a half; *Palladio* and *Serlio* make it ſix, as is viſible by the following Table, where it ſhould be obſerved, that the Particulars I give of the Meaſures, which different Architects have allow'd their Columns, is, from thence, to draw one that ſhall be a Mean between the Extremes of one and the other, as I have already done in regard to the Heights of Entablatures.

THUS I ſuppoſe the Height of the *Tuſcan* Column ought to be about fifteen Modules, and I give it fourteen and two Thirds, which is twenty-two of my little Modules, becauſe this Meaſure is a Mean between the fourteen of the *Tuſcan* of *Vitruvius*, and the ſixteen of *Trajan*'s Column. I likewiſe ſuppoſe the Height of the *Doric* Column ought to be ſixteen Modules, which make twenty-four of my little Modules; becauſe this Length is a Mean between the fourteen of *Vitruvius*, and the nineteen of the *Coliſeum*. I give alſo ſeventeen Modules and a Third to the *Ionic* Column, which are Twenty-ſix little Modules, this being a Mean between the ſixteen of *Serlio*, and the nineteen of the *Coliſeum*. The *Corinthian* Column has likewiſe eighteen Modules and two Thirds, which make twenty-eight little Modules, this Length being a Mean between the ſixteen Modules ſixteen Minutes, of the Temple of the *Sibyl*, and the twenty Modules ſix Minutes, of the three Columns of the *Forum Romanum*. The *Compoſite* Column, by the ſame Rule, has twenty common Modules, which amount to thirty little ones; this Height being a Mean between the twenty of the Arch of *Titus*, and the nineteen and an half of the Temple of *Bacchus*.

The TABLE of Lengths of Columns.

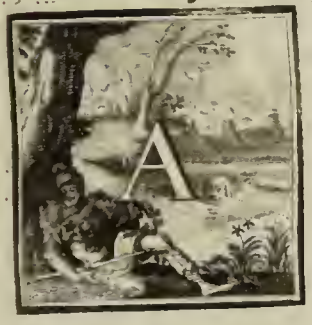
		Mean Modules	The mean Measure. Mean Modules	Little Modules.
Tuscan.	*Vitruvius*	14	14 $\frac{2}{7}$	22
	Trajan's Column	16		
	Palladio	14		
	Scamozzi	15		
	Serlio	12		
	Vignola	14		
Doric.	*Vitruvius* in Temples	14	16	24
	Vitruvius in Portic. of Temples	15		
	The *Coliseum*	19		
	The Theatre of *Marcellus*	15 $\frac{2}{7}$		
	Scamozzi	17		
	Vignola	16		
Ionic.	The *Coliseum*		17 $\frac{1}{7}$	26
	The Theatre of *Marcellus*			
	Palladio			
	Serlio			
	Vitruvius			
Corinthian.	The Porch of the *Pantheon*	19 : 06	18 $\frac{2}{3}$	28
	The Temple of *Vesta*	19 : 09		
	The Temple of the *Sibyl*	16 : 16		
	The Temple of *Peace*	19 : 02		
	The three Columns in the *C. V.*	20 : 06		
	The Temple of *Faustina*	19		
	The Basilic of *Antoninus*	20		
	The Porch of *Septimius*	19 : 08		
	The Arch of *Constantine*	17 : 07		
	The *Coliseum*	17 : 17		
	Vitruvius	19		
	Serlio	18		
Composite.	The Arch of *Titus*	20	20	30
	The Temple of *Bacchus*	19 $\frac{1}{2}$		
	Scamozzi	19 $\frac{1}{2}$		
	The Arch of *Septimius*	19 : 09		

If it be objected that in the *Antique*, and in ſome of the *Modern* Architects, we do not find that this progreſſive Augmentation of the Heights of Columns, has been obſerv'd in the *Compoſite* Order, as it has been in the others, and that the *Compoſite* and *Corinthian* Columns, are ſometimes of the ſame Height, as appears by the Examples in the Table: I anſwer, that the Diſtinction of the Orders, principally depending on the Proportion which is between the Length and Thickneſs of the Column, 'tis of neceſſity, if we would have the *Compoſite* make an Order different from the *Corinthian*, that this Proportion alſo, ſhould be different. And this is the Reaſon why *Vitruvius* ſays, That the Columns, for which, in his time, they made Capitals compos'd of Ornaments, taken from the other Orders, did not make an Order different from the *Corinthian*, becauſe theſe Columns were not longer than the *Corinthian*. It may alſo be objected, that this progreſſional Increaſe is contrary to the Rules of *Vitruvius*, who makes the Shaft of the *Ionic* Column, and that of the *Corinthian*, of the ſame Height, whereas we make the *Corinthian* Shaft the ſhorter. But 'tis true, that the Proportions of the *Ancient* Architecture have been chang'd in that, as in many other Things, by the Authors of the *Antique* Architecture, whom all the *Moderns* follow except *Scamozzi*, who makes the Shaft of the *Corinthian* Column very near equal to that of the *Ionic*.

Now becauſe 'tis reaſonable, that the progreſſional Advance of each Column, in the different Orders, ſhould be equal, after having eſtabliſh'd the whole Sum of the four Progreſſions, from the *Tuſcan* to the *Compoſite*, which I make to be five mean Modules and ten Minutes, that it might be a Mean between the five Modules of the *Antique*, and the five and a half of the *Moderns*; I divide this Sum, which makes one hundred and ſixty Minutes, into four equal Parts, giving forty Minutes to the Progreſſion of each Order. So that making the *Tuſcan* Column of fourteen mean Modules and twenty Minutes; I make the *Doric* of ſixteen Modules; the *Ionic* of ſeventeen Modules ten Minutes; the *Corinthian* of eighteen Modules twenty Minutes; and the *Compoſite* of twenty Modules. But becauſe theſe broken Numbers of the mean Modules are difficult to remember, I make uſe of my little Modules every one of which is twenty Minutes, and give the *Tuſcan* Column twenty-two, the *Doric* twenty-four, the *Ionic* twenty-ſix, the *Corinthian* twenty-eight, and the *Compoſite* thirty, the Progreſſion being throughout of two of my little Modules, which make forty Minutes.

CHAP. VI.

Of the Height of entire Pedeſtals.



ALTHOUGH Pedeſtals, call'd, by the *Ancients*, *Stylobatæ*, are not an eſſential Part of the entire Column, as the Baſe, Capital, Architrave, Freeze and Cornice are; the *Moderns*, nevertheleſs, have added them to the other Members, which compoſe the entire Column, and have aſſign'd them their Proportions accordingly.

We find nothing more in *Vitruvius* concerning theſe *Stylobatæ*, than that they were of two Sorts, namely one Continued, and the other Broken into as many Parts as there were Columns ſet thereon, which that Author calls a *Stylobatæ* made in the likeneſs of Stools; each Part of the continued *Stylobatæ*, which makes a Projecture or Break right under each Column, being as a Stool, upon which the Column is ſet: but he ſays nothing of the Proportions either of one ſort or the other.

In the *Antique*, we find continued Pedeſtals in the Temple of *Veſta* at *Tivoli*, in that of *Fortuna Virilis*, and in the *Goldſmiths* Arch. Broken Pedeſtals are ſeen in the Theatre of *Marcellus*, in the Altars of the *Pantheon*, in the *Coliſeum*, in the Arches of *Titus*, *Septimius*, and *Conſtantine*. The Proportions of theſe Pedeſtals, which are only for the *Ionic*, the *Corinthian* and the *Compoſite*, are commonly very different in each Order, but they have nevertheleſs ſome Agreement, in that theſe Pedeſtals, as well as the Columns, have a progreſſive Augmentation

Augmentation near alike, namely about one Module; the mean Height, in the *Ionic*, being five Modules, in the *Corinthian* six, and in the *Compoſite* ſeven and a half.

The *Moderns* have deliver'd Rules for the Heights of entire Pedeſtals to the five Orders: and moſt of them augment them from Order to Order, with an equal Progreſſion, as the *Antique*. *Vignola* and *Serlio* have made their Pedeſtals of the ſame Height in different Orders. The Sum of the Augmentation from the *Tuſcan* to the *Compoſite*, is different in theſe Authors, as it is in the *Antique*, from the *Ionic* to the *Compoſite*, and in all the Examples exhibited in the following Table, it proceeds from two Modules to four.

To reduce all theſe Diverſities to a mean Proportion between the Extremes, I give, according to the Method I propos'd in the third Chapter, four Semi-diameters, or Modules, to the whole *Tuſcan* Pedeſtal, which are ſix of my little Modules; and this Height is a Mean between the extreme Heights, that is to ſay, between the higheſt and the loweſt Pedeſtals, which Authors have given to this Order: and I have alſo allow'd the *Compoſite* Pedeſtal ſix Semi-diameters and two Thirds, which make ten of my little Modules; which is alſo a Mean between the Extremes that have been given it: whence it follows that the Sum of the Augmentation is of two Semi-diameters and two Thirds, which being divided into four Parts, gives two Thirds of a Module, or Semi-diameter, to each Augmentation, which makes one of the little Modules. So that the *Tuſcan* Pedeſtal is of ſix little Modules, the *Doric* of ſeven, the *Ionic* of eight, the *Corinthian* of nine, and the *Compoſite* of ten; the Progreſſion being of one Module, as may be ſeen in the Table, where the greateſt Height of the *Tuſcan*, which is of five Modules in *Vignola*, added to the leaſt, which is three in *Palladio*, makes the Sum of eight Modules, the Half whereof is four, the Mean which I take, and the ſame with ſix little Modules. In the *Doric* Order, I take the four Modules twenty Minutes of *Palladio*, which make ſeven little Modules. In the *Ionic*, the greateſt Height, which is ſeven Modules twelve Minutes, in the Temple of *Manly Fortune*, added to the leaſt, which is three Modules eight Minutes, in the Theatre of *Marcellus*, makes ten Modules twenty Minutes, whoſe Half is five Modules ten Minutes, which are equal to eight little Modules. In the *Corinthian*, the greateſt Height, which is ſeven Modules twenty-eight Minutes in the Altars of the *Pantheon*, added to the leaſt, which is four Modules two Minutes, in the *Coliſeum*, makes twelve Modules, the Half of which is ſix Modules, or nine little Modules. In the *Compoſite*, the greateſt Height, which is ſeven Modules eight Minutes in the *Goldſmith's* Arch, added to the leaſt, which is ſix Modules two Minutes in *Scamozzi*, makes the Sum

Sum of thirteen Modules ten Minutes, whose Half is six Modules twenty Minutes, or ten little Modules.

The Table of the Height of Pedestals.

		Modules.	The mean Measure. Mean Modules	Little Modules.
Tuscan.	*Palladio*	3	4	6
	Scamozzi	3 : 12		
	Vignola	5		
	Serlio	4 : 15		
Doric.	*Palladio*	4 . 05	Min. 4 : 20	7
	Scamozzi	4 : 08		
	Vignola	5 : 04		
	Serlio	6 :		
Ionic.	The Temple of *Fortuna Virilis*	7 : 12	5 : 10	8
	The Theatre of *Marcellus*	3 : 08		
	The *Coliseum*	4 : 22		
	Palladio	5 : 04		
	Scamozzi	5		
	Vignola	6		
	Serlio	6		
Corinthian.	The Altars of the *Pantheon*	7 : 28	6	9
	The *Coliseum*	4 : 02		
	Palladio	5 : 01		
	Scamozzi	6 : 11		
	Vignola	7		
	Serlio	6 : 15		
Composite.	The *Goldsmith's* Arch	7 : 08	6 : 20	10
	Palladio	6 : 07		
	Scamozzi	6 : 02		
	Vignola	7		
	Serlio	7 : 04		

CHAP VII.

Of the Proportion of the Parts of Pedeſtals.

THE Pedeſtal being compos'd of the Baſe the Die or Trunk, and the Cornice; theſe Parts have very different Proportions in the Works of the *Ancients*, as well as in thoſe of the *Moderns*. The Proportion we find generally obſerv'd in the *Antique*, is, that the Baſe is greater than the Cornice, and that of the two Parts of which the Baſe is compos'd, the Zocco is always greater than the Mouldings, which taken together, make the reſt of the Baſe. Among the *Moderns*, *Serlio* and *Vignola* have not obſerv'd theſe Proportions, for they make the Plinth, or Zocco, leſs than the Mouldings: in which, it ſeems, they deſign'd to imitate the Baſes of Columns, where the Plinth, which is as their Socle, makes but a Third or Fourth of the Height of the Baſe.

Palladio and *Scamozzi* have followed the general Proportions of the *Antique*; only they are more regular, in that they always make the Baſe double to the Cornice. *Scamozzi* in the *Compoſite*, *Ionic* and *Doric*, makes the Socle double to the Mouldings of the Baſe.

THERE needs but little Alteration in the Proportions of theſe three Parts, to bring them to a Regularity through the whole, as I have done, in all the Orders, making the Baſe the fourth Part of the whole Pedeſtal, the Cornice the eighth Part, and the Socle two Thirds

Ch. VII. Thirds of the Baſe. It may be ſeen, by the following Table, how ſmall a matter the *Antique* and *Modern* Works differ from the Proportions I propoſe: and it is to be obſerv'd, that the Examples I bring, do not at all relate to the Proportions of Pedeſtals, with reſpect to the Orders, but only to the Proportions of the Parts of a Pedeſtal, in reſpect of the entire Pedeſtal, whoſe Height, in reference to the Orders, is eſtabliſh'd in the preceding Chapter.

I divide, then, the Pedeſtal, of each Order, into one hundred and twenty Parts, which I do not call Minutes; becauſe, as I ſaid before, by Minute I underſtand the ſixtieth Part of the Diameter of the Column, which is a certain Meaſure; whereas the Part I mean here, is the one hundred and twentieth Part of each Pedeſtal, of what Height ſoever it be. It being thus, I allow the entire Baſe of the Pedeſtal thirty of theſe Parts, which is the Fourth of the whole Pedeſtal, and twenty to the Socle, which is two Thirds of the Baſe, leaving the remaining ten for the Mouldings of the Baſe. I give fifteen of theſe Parts to the Cornice, and the reſt, which are ſeventy-five, to the Die or Trunk. This agrees with the mean Proportions, taken from the Examples of the *Antique*, produc'd in the following Table, which contains the Number of Particles that each Part of the Pedeſtal has in all the Orders. Thus for the Height of the Socle, I add the greateſt Height, which is thirty, in the Temple of *Manly Fortune*, to the leaſt which is ten, in the Arch of *Conſtantine*, which make forty, the half whereof is twenty, which I allow it. By the ſame Method, I find the ten Parts which make the Height of the Mouldings of the Baſe, adding the greateſt Height given them, which is fourteen in the Arch of *Conſtantine*, to the leaſt, which is ſix in *Palladio*, which make twenty, the half of which is ten, the Height I aſſign them. In like manner, I find the ſeventy-five Parts, which make the Height of the Die, adding the greateſt Height, which is eighty-four in the *Goldſmith's* Arch, to the leaſt, which is ſixty-ſix in the Temple of *Manly Fortune*, which, together, make one hundred and fifty, whoſe Half is ſeventy-five, as I give it. Laſtly, the Height of the Cornice is found by adding the nineteen Parts of the Temple of *Manly Fortune*, to the eleven of the *Coliſeum*, which make thirty, the half of which is fifteen, as I allow it.

The TABLE of the Height of the Parts of Pedeſtals.

		Socle.	Mouldings of the Baſe.	Square.	Cornice.
Doric.	*Palladio*	25 Partic.	6 Particul.	68 Partic.	18 Partic.
	Scamozzi	27	14	60	21
Ionic.	The Temple of *Manly Fortune*	30	12	66	19
	Coliſeum	28	8	73	11
	Palladio	22	11	70	17
	Scamozzi	25	12	65	18
Corinthian.	*Conſtantine's* Arch	10	14	79	17
	The *Coliſeum*	24	11	73	12
	Palladio	19	12	73	15
	Scamozzi	18	11	77	14
Compoſite.	*Titus's* Arch	26	14	67	13
	The *Goldſmiths* Arch	19	9	84	11
	Palladio	21	10	74	15
	Scamozzi	21	10	74	15
	Septimius's Arch	15	14	76	14
	Mean Meaſures	20	10	75	15

PEDESTALS have this, beſides, common in all the Orders, that the Breadth of their Die is always the ſame, being equal to the Projecture of the Baſes of the Columns, which is alike in all the Orders, as it has been already eſtabliſh'd in the third Chapter, and ſhall be more fully explain'd hereafter.

CHAP.

CHAP. VIII.

Of the Diminution and Swelling of Columns.

TO give Satisfaction in two Points that are the moſt important in Architecture; namely, Solidity or Strength, and the Appearance of Solidity, which, as has been already ſaid, makes a very principal Part in the Beauty of Buildings; all Architects have made their Columns leſſer above than below, which is call'd the Diminution: Some alſo have made them a little thicker towards the middle than at the bottom, and that is what they call the Swelling.

Vitruvius would have the Diminution of Columns differ according to their Height, and not according to the Number of Modules: ſo that a Column of fifteen Feet high, ſhould be diminiſh'd the ſixth Part of its Diameter below, and one of fifty Feet high, ſhould be diminiſh'd but the eighth Part, and ſo in other Heights he gives a proportional Diminution. But we don't find theſe Rules obſerv'd in the *Antique*: For the great Columns of the Temple of *Peace*, of the Portico of the *Pantheon*, thoſe of the *Forum Romanum*, now call'd *Campo Vaccino*, and of the Baſilic of *Antonine*, have no other Diminution than thoſe of the Temple of *Bacchus*, which are but a fourth Part of the Height of the others, and there are ſome very large, as thoſe of the Temple of *Fauſtina*, of the Porch of *Septimius*, of the Temple of *Concord*, and of the Baths of *Diocletian*, that have more Diminution than others which are leſs by half, as thoſe of the Arches

ches of *Titus*, *Septimius*, and *Conſtantine*. Laſtly, thoſe Columns that are leſs than fifteen Feet, have not ſo great a Diminution as the ſixth Part which *Vitruvius* gives them, but about two Fifteenths, and great Columns, which even exceed the fifty Feet of *Vitruvius*, have yet a greater Diminution than he preſcribes them, being alſo two Fifteenths, inſtead of an Eighth, which, according to the Rule of *Vitruvius*, they ought to have.

The Difference of the Orders does not oblige one to make alſo a different Diminution, there being ſmall and great Diminutions in different Works of all the Orders. We muſt however except the *Tuſcan* Column, which *Vitruvius* diminiſhes even to a fourth Part. But as ſome of the *Moderns* have not followed *Vitruvius* in that particular, *Vignola* making its Diminution but a Fifth, and the Column of *Trajan*, which is the only *Tuſcan* Work remaining of the *Ancients*, having its Diminution ſtill much leſs, being but a ninth Part; to keep a Medium between theſe Extremes, I allow a ſixth Part for the Diminution of the *Tuſcan* Column, inſtead of the two Fifteenths only, which the other four Orders have. For though according to Reaſon, were we to change the Diminution according to the Orders, we ought to make it leſs rather than to augment it, in thoſe where the Columns are ſhorter in proportion to their Thickneſs, becauſe 'tis in theſe the Diminution is moſt apparent; nevertheleſs this Diminution, which *Vitruvius* gives the *Tuſcan* Column, being followed by the generality of Architects, I think ſome Regard ſhould be had to Cuſtom, which is one of the principal Laws of Architecture, and that we ought ſomething to augment this Diminution of the *Tuſcan* Order.

I have ſet down in the following Table, the Differences of Size in the ſeveral Orders with their Diminutions, to make it manifeſt by theſe Examples, that the *Ancients* did not make their Diminutions different according to the different Orders, nor according to the different Sizes of Columns; there being different Diminutions in the ſame Order, and in Columns of the ſame Size; as there are like Diminutions in the different Orders, and in Columns of a different Bigneſs. For we ſee, for Inſtance, that the *Doric* Column of the Theatre of *Marcellus*, and that of the *Coliſeum*, which are near of the ſame Size, have very different Diminutions, as from twelve to four, that the *Ionic* of the Temple of *Manly Fortune*, and that of the *Coliſeum*, which are alſo near the ſame bigneſs, have their Diminution different as from ſeven to ten, and that on the contrary, there is the ſame Diminution in the Column of the Temple of *Manly Fortune*, and that of the Porch of *Septimius*, though one is of the *Ionic* Order, and has only twenty-two Feet in Height, and the other is of the *Corinthian* Order, and is thirty-ſeven Feet high.

Ch. VIII. Now from all the different Diminutions given to thoſe Columns, whoſe Examples are produc'd in this Table, I take a Medium, adding the Number of the leaſt Diminution to that of the greateſt, and taking the Half of this Number, which is about eight Minutes. For adding the leaſt Diminution, being that of the *Doric* Column of the *Coliſeum*, which is but four Minutes and a half, to the Number of the greateſt, which is that of the *Doric* of the Theatre of *Marcellus*, and riſes even to twelve Minutes, the half of theſe two Numbers, which together make ſixteen and a half, is eight and a quarter: So likewiſe, if we add the Number of the leaſt Diminution of the Columns that remain, which is ſix and an Eighth, in the Column of the Baſilic of *Antonine*, to the greateſt, which is ten and an half in the Column of the Temple of *Concord*, the half of theſe two Numbers, which together make ſixteen and five Eighths, is eight and five Sixteenths. Now this Meaſure of eight Minutes, which makes two Fifteenths of the Diameter of the Column, is the fifth Part of my little Module, or four Minutes on each Side. I have not here inſerted the Diminutions of the *Moderns*, becauſe they, like the *Antique*, differ in different Authors, and in different Orders.

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The TABLE of the Diminution of COLUMNS.

		The Height of the Shaft			Diameter			Dimin.	
		Feet	Inches		F.	Inches		Min.	
Doric.	The Theatre of *Marcellus*	21	0	0	3	0	0	12	0
	The *Coliſeum*	22	10	1/4	2	8	1/4	4	1/2
Ionic.	The Temple of *Concord*	36	0	0	4	2	1/3	10	1/2
	The Temple of *Manly Fortune*	22	10	0	2	11	0	7	1/3
	The *Coliſeum*	23	0	0	2	8	1/4	10	0
Corinthian.	The Temple of *Peace*	49	3	0	5	8	0	6	1/3
	The Portico of the *Pantheon*	36	7	0	4	6	0	6	1/3
	The Altars of the *Pantheon*	10	10	0	1	4	1/2	8	0
	The Temple of *Veſta*	27	5	0	2	11	0	6	1/3
	The Temple of the *Sibyl*	19	0	0	2	4	0	8	0
	The Temple of *Fauſtina*	36	0	0	4	6	0	8	0
	The Columns of the *Campo Vaccino*	37	6	0	4	6	1/3	6	1/2
	The Baſilick of *Antoninus*	37	0	0	4	5	1/2	6	1/3
	Conſtantine's Arch	21	8	0	2	8	2/3	7	0
	Inſide of the *Pantheon*	28	6	0	3	5	0	7	0
	The Portico of *Septimius*	37	0	0	3	4	0	7	1/2
Compoſite.	The Baths of *Dioeletian*	35	0	0	4	4	0	11	1/2
	The Temple of *Bacchus*	10	8	0	1	4	1/4	6	1/3
	Titus's Arch	16	0	0	1	11	1/3	7	0
	Septimius's Arch	21	8	0	2	8	1/4	7	0

THE Diminution of Columns is made in three different Manners. The firſt and moſt general, is to begin the Diminution at the Bottom of the Column, and to continue it to the Top. The ſecond, which is alſo practic'd in the *Antique*, is not to begin the Diminution but from a third of the Height above the Baſe of the Column. The third, of which we find no Example in the *Antique*, is to make the Column thicker towards the Middle, and to diminiſh it towards both Ends; that is, towards the Baſe and Capital, which gives it, as it were, a Belly, which they call the Swelling.

SOME of the *Moderns* have given this Swelling to Columns, founding their Practice upon a Place in *Vitruvius*, where this Author promiſes to give Rules for doing it; but has not perform'd the ſame. *Vignola* has invented a very ingenious Way to regulate this

Ch. VIII. this Swelling, and to trace the Line of its Profile, ſo that the two Lines which make the Profile of the Column, bend towards the Extremities in the ſame Proportion, bowing twice as much towards the Top as towards the Bottom, by reaſon the upper Part is twice as long as the lower. Monſ. *Blondel*, in his Tract of the four principal Problems of Architecture, has ſhewn how this Line may be deſcrib'd at one ſingle Stroke, with the Inſtrument *Nicomedes* invented to draw the Line call'd the firſt Conchoid of the *Ancients*. This Method can ſerve only for the Line of Diminution, which goes from the Bottom of the Column to the Top, ſo that it does not bend inwards towards the Bottom, but falls perpendicularly: unleſs one would have this Bending begin above the Third from the Bottom, which ought to be ſtrait, making two parallel Lines: For in my Opinion, the Column ought not to be diminiſh'd below, ſince neither the Architects of the *Antique*, nor even the greateſt part of the *Moderns* have done it.

CHAP. IX.

Of the Projecture of the Baſe of Columns.

THE Projecture of the Baſes of Columns, is another of thoſe Things which I believe were originally alike in all the Orders of the *Ancients*: for we find in the *Antique*, as well as in the *Modern* Authors, they are either equal or indifferently ſometimes greater, ſometimes leſs in the ſame Orders. For Inſtance in the *Coliſeum*, the *Doric* has the ſame Projecture of Baſe, as in the Temple of *Concord*, which is *Ionic*, and as the *Corinthian* in the ſame *Coliſeum*; and the *Tuſcan* of *Serlio* has a greater Projecture of Baſe than his *Compoſite*; when on the contrary, the *Compoſite* of *Scamozzi* has a Projecture larger than his *Tuſcan*.

THE Rules *Vitruvius* lays down in this Caſe, are very obſcure. When he ſpeaks in general of the Projecture of Baſes, he allows them even a fourth of the Diameter on each ſide, which much exceeds the greateſt Projecture found in the *Antique*; and when he treats of the *Ionic* Baſe, which he makes nothing different from the *Corinthian*, he ſcarce makes it larger than the leaſt of the *Antique*.

NOW the Breadth which I give the Baſes of all the Orders, is eighty-four Minutes, which are forty-two on each Side, by reaſon of the twelve which I add to the thirty of the Semi-Diameter. For twelve Minutes, as was ſaid in the third Chapter, anſwer to three Parts of the five, of which my little Module conſiſts, which being twenty Minutes, each of theſe Fifths contains four Minutes:

Ch. IX. And these twelve Minutes differ very little from a Mean of those Proportions found in the *Antique*, and in the *Moderns*; as may be prov'd by the following Table, from which this mean Proportion may be taken, as was done in the preceding Chapter, for the Diminution of Columns. For adding the sum of the least Projecture, which is forty, in the *Corinthian* of the *Coliseum*, to the greatest, which is forty-four, in the Arch of *Titus*, we shall find eighty-four, whose Half is the forty-two requir'd: And again, if we add the least Projecture we find in the remaining Examples of the Table, which is forty-one, in the Portico of the *Pantheon*, to the greatest, which is forty-three in the Temple of *Manly Fortune*, we likewise find the same Number of eighty-four Minutes.

The Table of the Projecture of the Bases of Columns.

	Tuscan	*Doric*	*Ionic*	*Corinth.*	*Compos.*
The Portico of the *Pantheon*				41	
The 3 Columns of *Campo Vaccino*				42	
Pilasters of the Portico of the *Pan.*				43	
The Baths of *Diocletian*				42	43
Trajan's Column	40				
Palladio	40	40	41	42	42
Scamozzi	40	42	41	40	41
Vignola	41	41	42	42	42
Serlio	42	44	41	40	41
The Temple of *Manly Fortune*			43		
The *Coliseum*		40	40	40	
The Temple of *Bacchus*					41
Titus's Arch					44
Septimius's Arch					41

CHAP.

CHAP. X.

Of the Projecture of the Baſe, and of the Cornice of Pedeſtals.

AS Pedeſtals were not ſo much in uſe among the *Ancients*, as they have been ſince, the *Moderns* have not tied themſelves up to follow the Proportions of thoſe which remain of the *Antique*: but above all, they have thrown aſide the great Projectures the *Antique* gave their Baſes, which are commonly larger by a Third or more, than they are in the *Modern* Authors. What can be gather'd from the general Rules, practic'd by the *Ancients*, is, that they proportion'd this Projecture to the Height of the Pedeſtals, which the *Moderns* have not obſerv'd, making it always near the ſame in all the Orders, where the Height of the Pedeſtals is very different: and I can't think they acted reaſonably herein; for if in Columns, the Projecture of the Baſes be equal in all the Orders, though the Heights of the Columns are different, 'tis becauſe the Baſes themſelves have always an equal Height in all the Orders, except only the *Tuſcan*, where it is ſomewhat lower than in the others, by reaſon it comprehends the Cincture at the Bottom of the Column: Now, by the ſame Rule the Projectures of the Baſes of Pedeſtals ought to be different, being proportion'd to the Height of the whole Pedeſtal, which is different in the different Orders.

CHAP. X. THAT we deviate as little as possible from the Rules of our Masters, we take a middle Way, imitating the *Ancients* in the Proportion which the Projecture of the Base has with the Height in their Pedestals, and following the *Moderns* in retrenching something of the too great Projecture which the *Ancients* generally gave these Bases. The Reasons the *Moderns* had to lessen this great Projecture, is probably founded upon the Rule of the Appearance of Solidity, of which I have already spoken: For just as those Foundations, which set out too far at once, are not the strongest, by reason being compos'd of divers Stones laid one upon another, those below, which make the Extremity of the Foundation, do not support the Wall for which the Foundation was made, being without the Perpendicular of it, but sustain only the upper Parts of the Foundation; so that the Settings-off, or Recesses, which are made from course to course, should be very small, if we would have the Foundation solid; So likewise Bases cannot appear solid and capable of bearing the Trunk of the Pedestal, if their Projecture is too large.

I make, therefore, in all the Orders, the Bases of the Pedestals, without including their Zocolo or Plinth, with a Projecture equal to their Height; and thus as the Height of the Bases is different in the Pedestal of each Order, the Projecture of the Base is also different in all the Orders.

As for the Projecture of Cornices of Pedestals, the *Ancients*, and most of the *Moderns* agree, in that they usually make it either equal or a small matter larger than that of the Base; and it is but consonant to Reason, that a Cornice, which is made to cover, should advance beyond what is cover'd by it. *De Lorme*, nevertheless, says, that the Base ought always to have a greater Projecture than the Cornice, although the contrary appears in his Figures.

THE following Table shews the Proportions of these Projectures, in the Works of the *Ancients* and *Moderns*, which I compare with those I give them. The Number of Minutes is the Projecture of the Base and Cornice, taken from the Naked of the Die of the Pedestal outwards. The Heights of the whole Pedestal are measur'd by the mean Module.

THE mean Proportions, in these Projectures of the Bases and Cornices of Pedestals, are not precisely the Medium of the Extremities, found in the Examples produc'd in the Table: It is sufficient that they are between both, and that as there are Instances of greater, so there are also of less. For Example, the mean Projecture I give the Base of the Pedestal in the *Doric* Order, which is twelve Minutes, is greater than what *Vignola* gives it, which is but eleven, and less than that of *Palladio*, which is sixteen, and so of the rest.

The

The TABLE of the Projecture of the Baſes and Cornices of PEDESTALS.

		The Projecture of the Baſe.	Projecture of the Cornice	Height of the entire Pedeſtal.
		Minutes.	Minutes.	m. Mod. Min.
Doric.	*Palladio*	16	16	4 20
	Vignola	11	11	5 10
	Our Meaſure	12	14	4 20
Ionic.	The Temple of *Manly Fortune*	26 1/4	13	7 4
	Palladio	14	14	5 5
	Vignola	14	16	6
	Our Meaſure	14	17	5 2/3
Corinthian.	The Temple of *Veſta* at *Tivoli*	24 1/2	24	6 7
	Palladio	16	16	5
	Vignola	13	13	6 6
	Our Meaſure	15	19	6
Compoſite.	*Titus*'s Arch	28	27	8 15
	Septimius's Arch	24 2/3	25 1/3	6
	Palladio	14	14	6 1/2
	Vignola	13	13	7
	Our Meaſure	16	22	6 2/3

CHAP. XI.

Of the Projecture which the Cornices of Entablatures ought to have.

VITRUVIUS gives one general Rule for all the Projectures of the Members of Architecture: namely, that their Projecture ſhould be always equal to their Height; but 'tis certain, this ought to be underſtood only of the Projecture of the entire Cornices of Entablatures, with reſpect to their Height: becauſe there are particular Members in Cornices, as the Dentel, whoſe Projecture is much leſs than its Height; and others, as the Corona, where it is always much greater: And this Rule, even for entire Cornices, we do not find exactly obſerv'd, neither in the *Antique*, nor among the *Moderns*: For moſt commonly, in the *Antique*, the Projecture of Cornices, is ſomewhat leſs than their Height, contrary to what we ſee in the Books of the *Moderns*, where the greateſt part of Cornices have more Projecture than Height.

MOST Architects are of Opinion, that the main Point of Architecture conſiſts in knowing how to change the Proportions with Diſcretion, thus, with regard to the different Circumſtances of the Diverſity of Aſpects, and the Size of Buildings; for they pretend, that ſome require greater Projectures in their Cornices than others, on account of the Nearneſs or Remoteneſs which makes a Difference of View, as well as of the Height or Lowneſs, making the Projectures

Projectures to appear Leſſer or greater than they are, they ſay 'tis neceſſary to remedy this Inconveniency, by augmenting, or diminiſhing the Projectures: and they would perſuade us, that the Diverſity of theſe, which is found in the Works of the *Antique*, is to be attributed to this Reaſon. But 'tis evident, the *Ancients* had no ſuch Intention, ſince in Structures, where the Projectures ought to have been greater, on account of the Aſpect, whoſe Diſtance, according to the reaſoning of the *Moderns*, ſhould demand a large Projecture; we find that on the contrary, the *Ancients* have made it very ſmall, as appears by the *Pantheon*, where the Projecture is leſs in the Cornice of the Portico, than in that of the Inſide of the Temple, where the View is, without compariſon, much leſs. It is alſo manifeſt, that the Projectures have not been chang'd, on account of the Size of the Module, that regulates the Dimenſions of the Building, becauſe we find the Projecture is equal to the Height, or even that it is leſs in the greateſt Structures, as is evident in the Temple of *Peace*, the Columns of *Campo Vaccino*, and thoſe of the Baths of *Diocletian*, which are *Antique* Buildings, that have the greateſt Module: for in theſe great Orders, the Projecture of the Cornices is leſs than in the little ones; ſuch as the Temple of *Veſta*, at *Tivoli*. And what makes it plain, that all this Diverſity has no other Foundation than Accident, is, that there are alſo ſmall Buildings where the Projecture is leſs than in the great ones, as appears in the Altars of the *Pantheon*, where the Projecture is leſs than in the Portico, whoſe Order is near four times as big. I ſhall treat hereafter of the Change of Proportions more fully, in a Chapter by it ſelf.

The following Table is to prove the Truth of the Examples before cited.

The

The TABLE of the different Projectures of Entablatures.

	There is more Projecture than Height in the Cornices	Min.	Size of Order. F.	In.
Of the	Tem. of *Veſta* at *Tiv.* by	4 0	25	4
	Ionic of the *Coliſeum*	1 0	25	0
	Doric of the *Coliſeum*	0 $\frac{3}{4}$	31	$\frac{1}{2}$
	Arch of *Conſtantine*	0 0	40	$\frac{1}{2}$
	Porch of *Septimius*	2 0	40	0
	Inſide of the *Pantheon*	0 $\frac{1}{2}$	47	0
	Temple of *Concord*	16 0	53	7
	Temple of *Fauſtina*	0 $\frac{1}{2}$		
	Ionic of *Scamozzi*	3 0		
	Corinthian of *Palladio*	0 $\frac{1}{2}$		
	Corinthian of *Vignola*	4 0		
	Compoſite of *Palladio*	1 0		
	Compoſite of *Scamozzi*	1 $\frac{1}{2}$		

	There is more Height than Projecture in the Cornices	Min.	Size of Order. F.	In.
Of the	*Goldſmiths* Arch by	6 0	17	0
	Altars of the *Pantheon*	7 0	16	0
	Arch of *Titus*	0 0	25	0
	Ionic of the Th. of *Mar.*	9 0	28	0
	Temple of *Bacchus*	5 0	28	7
	Corinthian of the *Coliſeum*	3 0	30	2
	Temple of *Manly Fort.*	12 0	32	0
	Arch of *Septimius*	13 $\frac{1}{2}$	33	0
	Portico of the *Pantheon*	2 0	54	0
	3 Columns of *Cam. Vac.*	1 $\frac{1}{2}$	58	0
	Temple of *Peace*	7 0	58	0
	Ionic of *Palladio*	7 0		
	Ionic of *Vignola*	1 $\frac{1}{2}$		

The Diverſity of Proportion, in all theſe Cornices, has made way for reducing it to a Mean, which is to make the Projecture equal to the Height, in all the Orders except the *Doric*, when it has Mutules; becauſe their Length obliges us to give the entire Cornice more Projecture than Height: but if this Cornice be made without Mutules, as it is in the *Coliſeum*, the Projecture then may be equal to the Height, as it is in that famous Structure.

CHAP.

CHAP. XII.

Of the Proportion of Capitals.

ALTHOUGH the Baſes of different Orders are very different, ſome being more plain, and others having a greater number of Mouldings, yet they are ſtill of the ſame Height, each having the Semi-diameter of the lower Part of the Column, the *Tuſcan* only excepted, where the Cincture, at the bottom of the Column, is comprehended in this Semi-diameter. But it is not ſo with the Capitals, of which there are three ſeveral Heights in the five Orders, the *Tuſcan* and *Doric* Capitals having the ſame Height as their Baſe, and the *Corinthian* and *Compoſite* having an entire Diameter and a Sixth, which is three little Modules and a half; and laſtly, the *Ionic*, which has a particular Proportion, from the Top of the Abacus to the Bottom of the Volutes, being the Semi-diameter of the Bottom of the Column, and an eighteenth Part of this Semi-diameter; and from the Top of the Abacus to the upper Part of the Aſtragal at the Head of the Column, eleven of theſe Eighteenths, which indeed are Proportions ſomewhat confus'd.

But the ready Proportions of the other Capitals, are not however found in all the *Antique* Works, nor in all the *Modern* Authors. The *Tuſcan* Capital of *Trajan*'s Column, is leſs than the Semi-diameter at the Bottom of the Column, by an entire Third; the *Doric* of the Theatre of *Marcellus*, is near three Minutes more than a

Ch. XIII. Semi-diameter, and that of the *Coliſeum* near eight. The *Corinthian* Capital of *Vitruvius* is lower than the Diameter of the Column and a Sixth; in the Temple of the Sibyl at *Tivoli* it is lower by thirteen Minutes. It is higher in the Frontiſpiece of *Nero*, by ſix Minutes, in the Temple of *Veſta* at *Rome*, by more than ſeven: The *Compoſite* of the Temple of *Bacchus* is higher by ſix Minutes; that of the Arches of *Septimius*, and the *Goldſmiths*, are lower by a Minute and an half.

So that theſe oppoſite Diverſities may eſtabliſh the Probability of a mean Proportion, which reduces the Height of the Capitals of the *Tuſcan* and *Doric* Order to the Semi-diameter of the Bottom of the Column, and that of the Capitals of the *Corinthian* and *Compoſite*, to an entire Diameter and one Sixth, which makes ſeventy Minutes, or three little Modules and an half.

CHAP. XIII.

Of the Proportion which the Aſtragal and Cincture of the Shaft of Columns ought to have.

IN all the Orders, the Columns have certain Members that terminate their Body or Shaft, which commonly are the ſame: namely, at the Top, an Aſtragal with its Fillet, and a pretty large Liſt or Cincture at the Bottom. Theſe Parts have no certain determin'd Proportion in the *Antique*, where we find they are ſometimes greater, ſometimes leſs, without any viſible Reaſon for this Diverſity. The *Moderns* have done the ſame Thing: but my Opinion is, we may give theſe Members the ſame Proportions in all the Orders, on the ſame account that the Height of Entablatures was made alike in the different Orders, becauſe, as the Column lengthens in the more delicate Ordets, theſe Parts though the ſame in Size, become, or at leaſt appear, more delicate in proportion to the Height of the Column.

As to the Cincture, at the Foot of the Column, I allow its Height the twentieth Part of the Diameter there. In the *Pantheon*, it comes very near this Bigneſs, which *Vignola*, *Serlio* and *Alberti* have follow'd; and in other *Antique* Buildings, this Member is ſometimes higher, as in the Temple of *Antoninus* and *Fauſtina*, in that of *Bacchus*, in the Arch of *Septimius*, and in the Baths of *Diocletian*; ſometimes it is lower, as in the Temple of *Veſta* at *Rome*, in that of *Manly Fortune*, and in the Arch of *Titus*. But in my Judgment, we

Ch. XII. we ought rather to make choice of those that are higher than those that are lower, such as that of the Temple of *Vesta*, at *Rome*, which has but the sixtieth Part of the Diameter of the Column: because this Member, which makes the Foot of the Column, and fixes it on its Base, naturally requires Strength. Now if there were any Reason to give a different Height to this Cincture, it should be, methinks, the difference of the Tores upon which it is plac'd; there being some Pretence to make it larger, where the Tores are greater, as they are in the *Attic* and *Ionic* Bases. But we find no Instance of this, in the Works of the *Ancients*, where this Cincture is indifferently, sometimes large, sometimes small, upon the *Attic* and *Corinthian* Bases, where the upper Tores, upon which this Member is plac'd, are of a different Thickness.

We sometimes find, that instead of this Cincture, there is an Astragal with a Fillet, as in the Temple of *Peace*, in the three Columns of *Campo Vaccino*, in the Basilic of *Antoninus*, and in the Arch of *Constantine*; which some of the *Moderns*, as *Palladio*, *Scamozzi*, *De Lorme*, and *Viola*, have imitated: but I think one may affirm that those who use the Cincture only, have most Reason on their Side, as well because of the Confusion that so great a number of Mouldings produces, as because the Standing of the Column appears less firm upon an Astragal, whose Roundness looks more likely to let the Column slip, than to keep it in its Place, as the Squareness of the Cincture seems capable of doing.

As for the Height of the Astragal at the top of the Column, I make it the eighteenth Part of the Diameter of the Bottom of the Column, which is the sixth Part of the little Module, as it is in the Frontispiece of *Nero*, in the Basilic of *Antonin*, and in the Temple of the *Sibyl* at *Tivoli*; keeping the Mean between the Extremes we see in the *Antique*, as in the Arch of *Septimius*, the Market of *Nerva*, the Temple of *Manly Fortune*, and that of *Bacchus*, where this Astragal is a Third and even half as large again; or on the other Side, as in the Temple of *Vesta* at *Rome*, where it is scarce half so big. The Excesses, into which the *Moderns* have run, are no less different; there being some, as *Serlio*, who give it not above the half of what it has in *Palladio*, and *Barbaro*.

But what more especially inclines me to this Proportion of the Astragal on the Top of Columns, is what is determin'd in the *Doric* Order, where it ought to be equal to the Breadth of the Eye of the Volute, as shall be explain'd in its proper Place: for this Proportion being establish'd in this Order, I see no Reason to change it in the others. On the same account, the Proportion of the Cincture, at the Bottom of the *Tuscan* Column, being determin'd by the Division of the upper Half of the Base, into five

† Parts,

Parts, one of these Parts being the twentieth of the Diameter of the Bottom of the Column, this Measure may very well be taken for the Rule of what all the Cinctures in other Orders ought to have, and so make them always equal.

I make the Fillet the Half of the Astragal, as is done in the Temple of *Bacchus*, that of the *Sibyl* at *Tivoli*, and that of *Concord*, in the Basilique of *Antonine*, and the Arch of *Septimius*: as also according to what *Scamozzi*, *Palladio*, *Cataneo*, *&c.* have done; the Instances that are to the contrary being in opposite Excesses, as well among these Authors as in the *Antique*; and this justifies the Choice I have made of a Medium, which I consider as the most certain Rule to reconcile the various Opinions, and different Examples, that are found in Architecture, and which I propos'd to my self to follow through the whole Course of this Work.

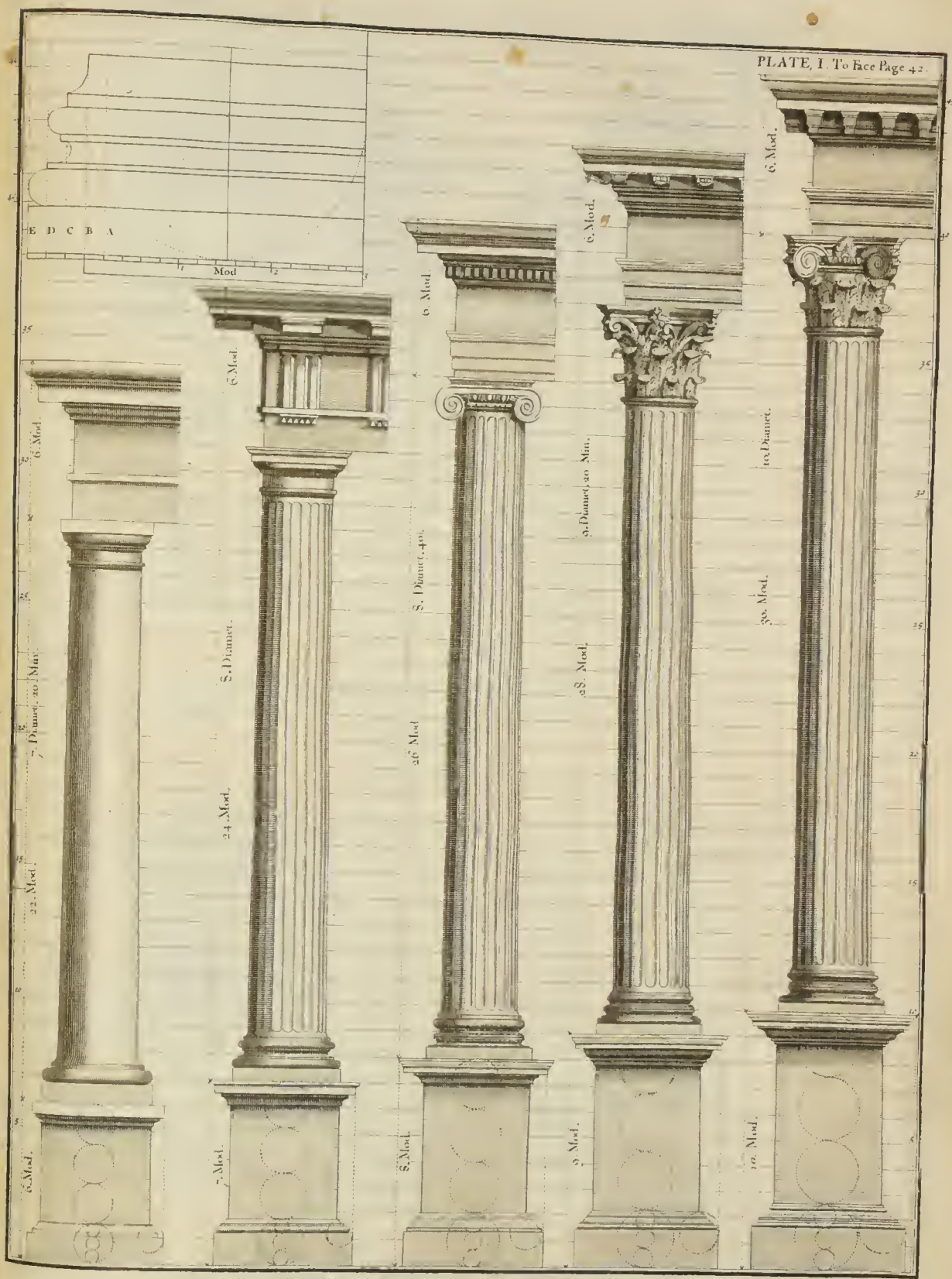
After having seen, in this first Part, the Proportions in general, of the principal Members of Architecture, comparing those of the several Orders one with another; you will, in the second Part, find the particular Proportions of each of these Members, after the same Method, with all the Particularities of the different Characters they have in the several Works of the *Antique*, and in the *Modern* Authors, who have treated of the Orders of Architecture.

The EXPLANATION of PLATE I.

THIS Plate contains all that has been explain'd in the first Part which treats of the Proportions common to all the Orders, as well what appertains to their Heights, as to their Breadths and Projectures; the Heights being determin'd by entire Modules, and the Projectures by the Division of the Module into five: supposing, as has been said, that the the Module is the Third of the Diameter of the Bottom of the Column, which I call the little Module.

It appears by this Plate, that all the Entablatures have six little Modules in Height, which makes two Diameters of the Bottom of the Column. That the Length of the Column goes increasing, from Order to Order, by an equal Progression of two Modules, the Tuscan having twenty-two, the Doric twenty-four, the Ionic twenty-six, the Corinthian twenty-eight, and the Composite thirty Modules. That all the Pedestals go likewise increasing, but only by one Module; the Tuscan having six, the Doric seven, the Ionic eight, the Corinhtian nine, and the Composite ten. That each Pedestal divided into four Parts, has one for its whole Base, and the Half of one for its Cornice. That the whole Base being divided into three Parts, one is given to the Mouldings, and the two others to the Zocolo. And lastly, that the Projecture of the Base is equal to the Height of the Mouldings of the same Base.

This Plate also shews, that the other Projectures are determin'd by Fifths of the little Module, the Projecture, which the Shaft of the Column has below, beyond what it has above, which is call'd the Diminution, being determin'd by one of these Fifths, which is the Space from A to B; the Projecture of the Cincture or Fillet, which is at the Bottom of the Shaft of the Column, by another Fifth, which is the Space from B to C; that of the upper Torus, and of the Fillet below the Scotia, by another Fifth, which is the Space from C to D, and the Projecture of the whole Base, by the Part which is from D to E, supposing that each of these Fifths contains four Minutes, of which, the Diameter, at the Bottom of the Column, contains sixty, the mean Module thirty, and the little Module twenty.


E D C B A
Mod
6 Mod.
7 Diamet. 20 Min.
22 Mod.
6 Mod.
6 Mod.
5 Diamet.
24 Mod.
7 Mod.
6 Mod.
5 Diamet. 40.
26 Mod.
8 Mod.
6 Mod.
5 Diamet. 20 Min.
28 Mod.
9 Mod.
6 Mod.
10 Diamet.
30 Mod.
10 Mod.

THE ORDONNANCE of the Five KINDS of COLUMNS, After the METHOD of the *ANCIENTS*.

PART II.

Of Things appertaining to each ORDER.

CHAP. I.

Of the TUSCAN *Order.*

THE Orders of ARCHITECTURE invented by the *Greeks*, were no more than Three: namely, the *Doric*, *Ionic*, and *Corinthian*; the *Romans* have added to theſe the *Tuſcan* and the *Compoſite*, by ſome call'd the *Italic*; but theſe two Orders, have not, properly ſpeaking, any eſſential Characters different from thoſe of the *Greeks*: for the Characters of the *Tuſcan* are near the ſame as thoſe of the *Doric*, and thoſe of the *Compoſite* very much reſemble them of the *Corinthian*, which is not ſo in the three *Greek* Orders, where the Things which diſtinguiſh each from other, are very conſiderable and remarkable, as is more particularly explain'd in the firſt Chapter of the firſt Part.

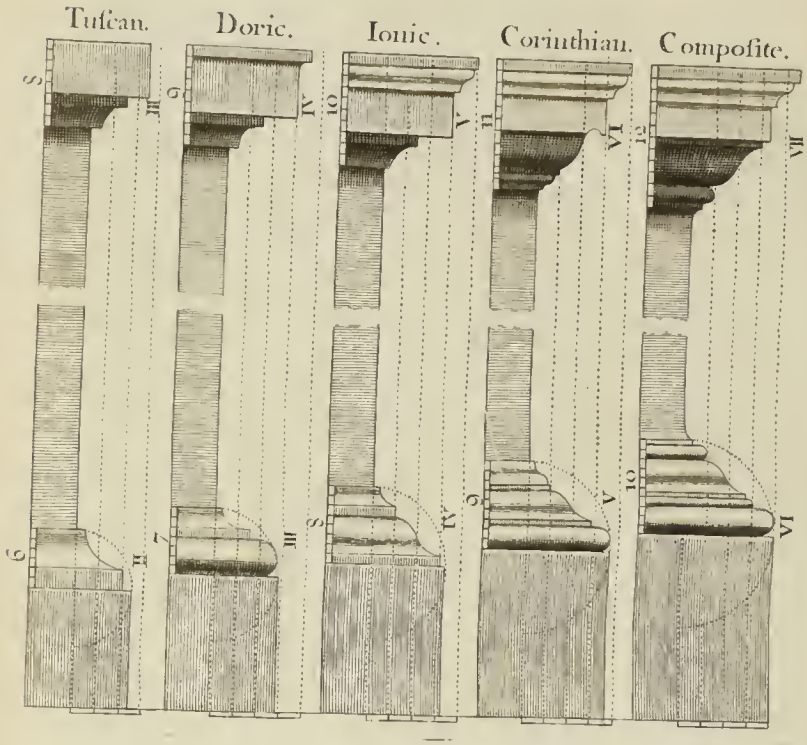
CHAP. I. THE *Tuſcan* is in effect no other than the *Doric* made ſtronger by the Shortning of the Shaft or Body of the Column, and plainer by the ſmall Number and Largeneſs of the Mouldings, with which the Orders are commonly adorn'd; for the Baſe and Cornice of it's Pedeſtal have few Mouldings, and for the moſt part very large. The Height of this Baſe, and this Cornice, which is as much in Proportion, as is in the other Orders, has fewer Mouldings; the Baſe of the Column has alſo but one Torus, and no Scotia; the Abacus of the Capital has no Ogee above; the Entablature is without Triglyphs or Mutules, and the Cornice has but few Mouldings.

THE general Proportions of the principal Parts of this Order, have been given and explain'd in the firſt Part of this WORK; where it was ſaid that the whole Order, that is to ſay; the Pedeſtal, Column, and Entablature, have thirty-four little Modules, of which the Pedeſtal has ſix, the Column twenty-two, and the Entablature ſix. It was alſo ſaid, that the Proportions of the three Parts of the Pedeſtal are alike in all the Orders, where the Baſe has always the fourth Part of the whole Pedeſtal, the Cornice the eighth Part, and the Socle or Plinth of the Baſe two Thirds of the Baſe it ſelf. It now remains that I give the Particulars of the Proportions of each Part, with what belongs to their peculiar Character.

BASE of the Pedeſtal. THE Pedeſtal is divided in the *Tuſcan* Order, as in all the others, into three Parts, the Baſe, the Die, and the Cornice. The Baſe conſiſts of two Parts, which are the Plinth and the Mouldings of the Baſe. Now as the Proportions of the principal Parts of intire Columns were before eſtabliſh'd in all the Orders, having ſuch Relation each to other, that the Heights go increaſing as the Orders are more delicate; the Heights of the Mouldings of the Baſe and Cornice of the Pedeſtals do the ſame: for as the Orders are more delicate, the Mouldings become ſmaller by the Augmentation of their Number which goes always increaſing, the *Tuſcan* Baſe having two, the *Doric* three, the *Ionic* four, the *Corinthian* five, and the *Compoſite* ſix. In like manner, the Cornice of the *Tuſcan* Pedeſtal has three Mouldings, that of the *Doric* four, the *Ionic* five, the *Corinthian* ſix, and the *Compoſite* ſeven.

To determine the Heights and Projectures of theſe Mouldings, I divide the Height of the Cornice, and that of the Baſe into a certain number of little Parts, which alſo go increaſing according to the Delicacy of the Orders. For that Part allotted to the Mouldings of the *Tuſcan* Baſe, is divided into ſix Particles, the *Doric* into ſeven, the *Ionic* into eight, the *Corinthian* into nine, and the *Compoſite* into ten. The Height of the Cornice of the *Tuſcan* Pedeſtal is divided

divided into eight, that of the *Doric* into nine, the *Ionic* into ten, the *Corinthian* into eleven, and the *Compoſite* into twelve; all which is explain'd by the following Figure, where the *Arabic* Cipher denotes the number of Particles into which the Baſe and Cornice are divided: The *Roman* Letter ſhews the number of Mouldings, of which each Baſe and Cornice is compos'd.



That Part of the Baſe of the *Tuſcan* Pedeſtal, which belongs to the Mouldings, being thus divided into ſix little Parts, four of them are given to the hollow, and two to the Fillet or Square under it, which are the two Members or Mouldings of this Part. The Cornice which is divided into eight Particles, has five for a Plat-band, which ſerves here inſtead of a Corona or Drip, and three for a Hollow, with its Fillet, which Fillet has one of theſe Particles. Cornice *of the* Pedeſtal.

The Projectures of the Members of the Baſe, and of the Cornice of this Pedeſtal, as alſo thoſe of all Sorts of Members in all the Orders, are taken from the fifth Parts of the little Module, as before eſtabliſh'd: namely, one for the Diminution of the Column, three for the Projecture of its Baſe, *&c.* As to the Pedeſtals, it has been already ſaid, that the Projecture of the whole Baſe without

CHAP. I. out the Plinth, is equal to its Height, and that the Projecture of the entire Cornice, is a ſmall matter more than that of the Baſe; all which is to be underſtood of all the Orders, except the *Tuſcan*, where the Projectures of the Baſe, and of the Cornice of the Pedeſtal are equal. As for the Projecture of the Members of which theſe Parts of the *Tuſcan* Pedeſtal are compos'd; the Hollow of the Cornice has one Fifth and a half of the little Module, and the Hollow of the Baſe has two, reckoning from the Naked of the Die, or Trunk of the Pedeſtal.

Now the Proportions and Characters of this Pedeſtal, hold the Mean between the two Exceſſes, found in the Works both of the *Ancients* and *Moderns*, where the Pedeſtal is ſometimes exceſſively adorn'd, as in the *Trajan* Column, whoſe Baſe and Cornice have all the Mouldings of the *Corinthian* Pedeſtal, and where, ſometimes, it has no Ornament at all, as in the *Tuſcan* Order of *Palladio*, where there is only a kind of ſquare Plinth or Socle, without either Baſe or Cornice. The *Tuſcan* Pedeſtal of *Scamozzi*, like this of ours, keeps a Medium between theſe two Extremes.

BASE of the Column. THE Baſe of the Column, which has a ſemi-diameter in Height, or one little Module and a half, and which comprehends the Fillet or Cincture, at the Bottom of the Shaft of the Column, is divided only into two Parts, one of which is for the Plinth: the other being again divided into five Parts, four are given to the Torus, and one to the Cincture, which is a part belonging properly to the Shaft of the Column: and this fifth Part of the half of the Baſe, which is the twentieth Part of the Diameter of the Column below, is as has been ſaid, the Meaſure of all the Cinctures at the Bottom of the Columns in all the Orders; becauſe there is no other Order beſides the *Tuſcan*, where this Part is determin'd, and that we find this Proportion has been followed in ſome of the *Ancients* Works; and in thoſe which differ from it, ſome making it a great deal larger, and others a great deal leſs, it is reaſonable to think that the Mean is to be choſen as the beſt. All the other Proportions of this Baſe are alſo in a Medium, between thoſe which the *Ancients* and *Moderns* have eſtabliſh'd, which are different: for the Plinth which I make according to *Vitruvius*, half as high as the whole Baſe, is, in the Column of *Trajan*, leſs by one Minute, and, in that of *Scamozzi*, greater by three Minutes. The Torus, whoſe Height I make twelve Minutes, is in the Column of *Trajan*, in *Palladio* and *Vignola*, twelve and a half, and in *Serlio* but ten. The Cincture or Fillet, which I make of three Minutes, is of three and a half in the *Trajan* Column, of five in *Serlio*, and *Palladio* and *Vignola* make it but of two and a half. The Projecture of the Baſe, as has been already mention'd, is of three Fifths of a Module.

WHAT

WHAT is remarkable in the Character of this Baſe, is, that *Vitruvius* gives the Plinth a Figure very particular, by taking away its four Corners and making it round. The *Moderns* have not approv'd of this Manner, and I do not think it ought to be follow'd, becauſe the Corners of the Baſe, anſwering thoſe of the Capital, the Baſe would appear maim'd when depriv'd of them, on account of the Analogy of the Baſes of the other Orders, which requires there ſhould be ſome Reaſon for this taking away of the Corners in that Order where we do it: For if there were any, it would be in thoſe Buildings where the Columns are ſet circularly, as they are in the Temples that are round Peripteres, where the Corners of the ſquare Plinths agree but ill with the Step or Pedeſtal which bears them, becauſe they are round. Nevertheleſs, we do not ſee that the *Ancients* rounded their Plinths to remedy this Inconvenience; but rather choſe to take them quite away, as may be ſeen by the Temple of *Veſta* at *Rome*, and in that of the *Sibyl* at *Tivoli*: but granting theſe Corners might be taken off in ſome Buildings, there is no reaſon to do it in the *Tuſcan* Order, rather than in the others.

THERE are two Things to be adjuſted in the Shaft of the *Tuſcan* Column; the firſt is its Diminution; of which, Mention has been made in the firſt Part, where it was ſaid, that it ought to be greater than in the other Orders, and where I have given the Reaſons which induc'd me to make it of the ſixth Part of the Diameter of the Column below, which is half the little Module, and amounts to five Minutes on each Side; whereas, in all the other Orders, this Diminution is but one Part of ſeven and a half, which is two Fifths of the little Module, that is to ſay, one Fifth on each Side, which is but four Minutes. The ſecond Thing to be determin'd is the Cincture at the Bottom of the Column, and the Aſtragal at the Top; It has been ſaid that theſe Parts ought to have the ſame Proportions in all the Orders, and that the Cincture has a twentieth Part of the lower Part of the Column, and the Aſtragal an eighteenth; the Fillet, underneath it, having half as much: and that the Projectures as well of the Aſtragal as Cincture, are one fifth Part of the little Module, that is to ſay, four Minutes beyond the Naked of the Column. *SHAFT of the* Column.

THE Capital has the ſame Height as the Baſe; and is divided into three Parts: one of which is for the Abacus, the other for the Ovolo or Quarter round, and the third for the Neck and Aſtragal under the Ovolo with its Fillet. The Character of this Capital conſiſts in having the Abacus quite plain and without any Ogee; and that under the Ovolo there are none of thoſe Annulets or ſmall Squares which are in the *Doric*, but only an Aſtragal and a Fillet. The Proportions of theſe laſt are found by parting the lower Third of the Capital into Eight; giving two Eighths of the Aſtragal, and Capital.

Chap. I. one to the Fillet under it, the Remainder being for the Neck. The Projecture of the whole Capital is equal to that of the Cincture at the Bottom of the Column, which is eight Fifths and a half, taken from the Middle of the Column. The Projectures of the Aſtragal under the Quarter round, as alſo that of the Aſtragal at the Top of the Column, is ſeven Fifths, reckoning alſo from the Middle.

Vitruvius, and moſt of the *Moderns*, who make the Diminution of the *Tuſcan* Column very great, give very little Breadth to its Capital, making it not to exceed that of the Diameter of the Column at Bottom.

Authors neither agree among themſelves, nor with the Antique about the Character of this Capital. We find in *Palladio* and *Serlio*, as well as in *Vitruvius*, and in the *Trajan* Column, the Abacus quite plain, and without an Ogee: *Vignola* and *Scamozzi*, inſtead of an Ogee, put a Fillet: *Philander* takes away its Corners and makes it round, poſſibly to make it like the Baſe, whoſe Plinth, *Vitruvius* would have to be round. The *Trajan* Column has no Neck, the Aſtragal of the Shaft of the Column being confounded with that of the Capital; and there are only *Vitruvius* and *Scamozzi*, who put an Aſtragal, with its Fillet, under the Ovolo; others, as *Philander*, *Palladio*, *Serlio*, and *Vignola*, put only a Fillet there. As to the Proportions alſo, they are no better agreed; for ſome, as *Philander*, take the Aſtragal and Fillet of the Top of the Column from the third Part of the Capital, which *Vitruvius* gives to the Neck and Aſtragal under the Ovolo: others, as *Serlio* and *Vignola*, give all the third Part to the Neck, and take the Fillet under the Ovolo, from the ſecond Part, which *Vitruvius* gives entirely to the Ovolo it ſelf. Others, as *Palladio*, leave this whole Third to the Ovolo, and put only a Fillet inſtead of the Aſtragal and Fillet, which *Vitruvius* aſſigns there. In all this Diverſity, I have choſen to follow *Vitruvius*, whoſe Manner ſeems to me more agreeable and conſonant to the Analogy and common Rule of all Capitals, which is to be a little more adorn'd, and not ſo plain as the Baſes; for without this Aſtragal, which *Vitruvius* puts under the Ovolo, the *Tuſcan* Capital would be nothing different from the Baſe.

Entablature. The Entablature having ſix Modules, as has been ſaid, the whole is divided into twenty Parts, which is likewiſe done in all the other Orders, except the *Doric*, as has been already noted. Six of theſe Parts are given to the Architectrave, the Fillet whereof has one. The Freeze has alſo ſix Parts. Of the eight which remain for the Cornice, two are given to the large Ogee which makes the firſt Member, and half a Part to the Fillet of the ſame; two and a half to the Corona or Drip, one to an Aſtragal with its Fillet, which is half as much as the Aſtragal, and two Parts to the Quar-

ter-

ter-round which ſupplies the Place of the great *Cima*, The Projectures are taken from the ſame fifth Parts, which determine all the others; and ſo three Fifths are given to the Ogee and its Fillet, reckoning from the Naked of the Freeze, ſeven and a half to the Corona; nine to the Aſtragal and its Fillet, and twelve to the Quarter-round.

The Proportions and Character of the Entablature of the *Tuſcan* Order are very different in Authors. As to the Proportion of the three parts which compoſe it, *Vitruvius* makes the Architrave not only larger than the Freeze, but even than the Cornice. *Palladio* alſo makes the Architrave very high, and greater than the Freeze, *Vignola* makes it leſs. I have imitated *Serlio*, who makes the Architrave and Freezes equal.

As to its Character, *Vitruvius* and *Palladio* allow no more than a ſquare Beam for the Architrave; on the contrary, *Scamozzi* gives it exceſſive Ornaments, as likewiſe to the Cornice, where he makes as many imbelliſhments as in the *Doric* Order: He alſo puts in the Freeze a kind of Triglyph not channel'd. *Serlio* follows a Manner quite oppoſite, making his Cornice ſo pitiful, that it has but three Members, for the ten which *Scamozzi* puts in his. The Cornice, which I propoſe, and which has much Affinity with that of *Vignola*, keeps the middle between the Exceſs of Delicacy or Number of Mouldings given by *Scamozzi*, and that of the too great Simplicity and Plainneſs which *Serlio* affects.

The

The EXPLANATION of PLATE II.

A THE Tuſcan *Baſe, according to the Proportions of* Vitruvius.

B *The Baſe of* Scamozzi, *where the Plinth and the Torus are higher than thoſe of* Vitruvius, *ſo that the Cincture is not comprehended in the Baſe, as it is in the others.*

C *The Baſe of* Serlio, *where the Cincture is much greater.*

D *The Capital according to* Vitruvius, *where the Abacus has neither an Ogee, nor Fillet; where the Ovolo takes up the whole ſecond Part of the Capital, and where there is an Aſtragal under the Ovolo.*

E *The Capital of* Scamozzi *without an Aſtragal,*

F *The Capital of* Serlio, *where the Abacus has a Fillet, where the Ovolo poſſeſſes not the ſecond Part of the Capital, but leaves Room for a Fillet under it, and where an entire Third is given to the Neck of the Capital.*

G *The Entablature where the Architrave and Freeze are equal, and where the Cornice conſiſts of ſix Mouldings.*

H *The Entablature of* Scamozzi, *where the Architrave which is leſs than the Freeze, is compos'd of two Faces, and has a Fillet under the Band; where the Freeze has a kind of Triglyph not channel'd; and where the Cornice conſiſts of ten Mouldings.*

I *The Entablature of* Serlio, *where the Freeze and Architrave are equal, and where the Cornice contains but three Mouldings.*

K *The Diminution of the Shaft of the Column, which is a ſixth Part of the Diameter of the lower Part thereof.*

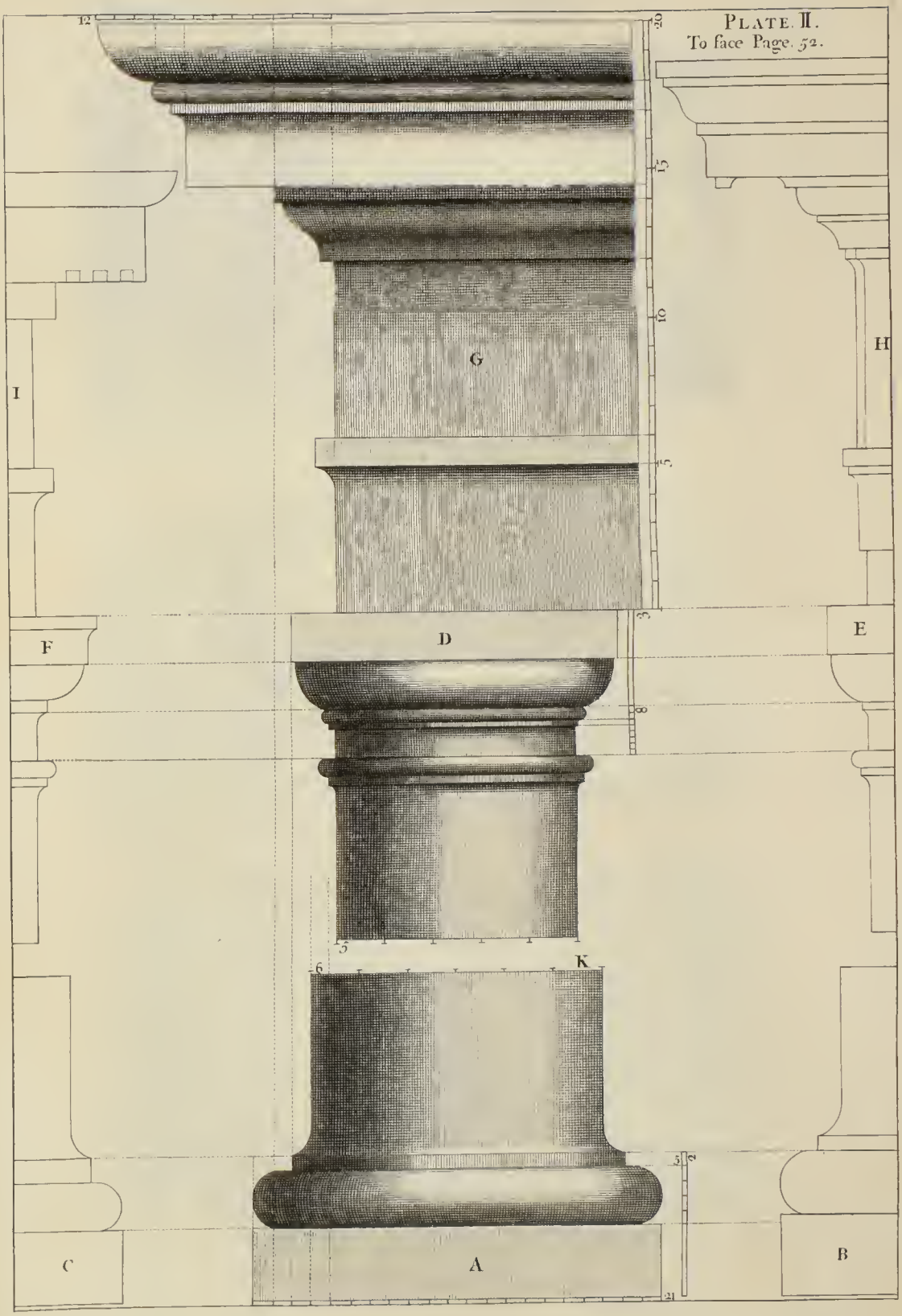


PLATE. II.
To face Page. 52.
G
H
I
D
E
F
K
A
B
C

CHAP. II.

Of the DORIC *Order.*

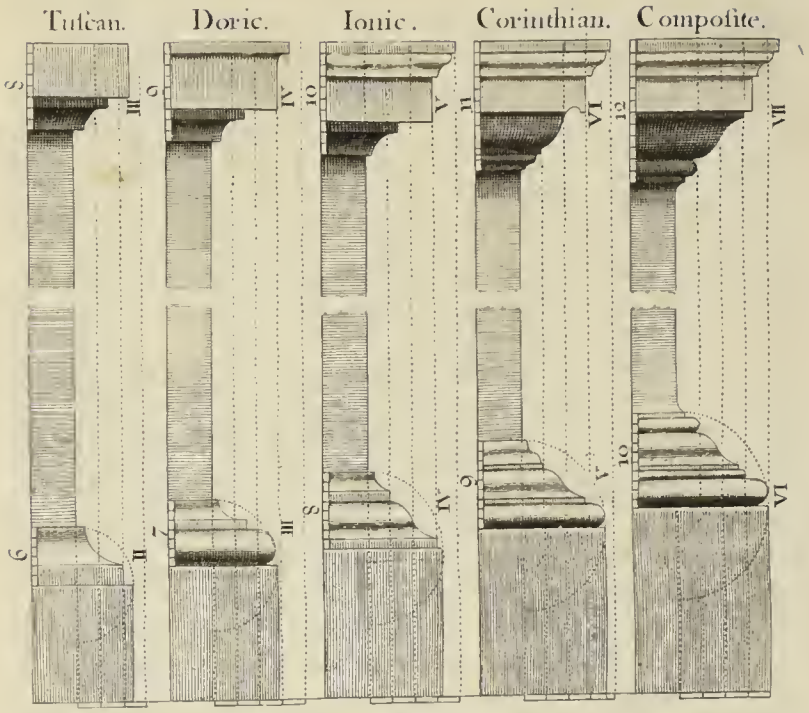
IN treating of the Orders, it were indeed more natural to begin with the *Doric*, as being the moſt Ancient, and that to which the *Tuſcan* and the others owe their Riſe and Origine: But the Cuſtom of handling the *Tuſcan* before the *Doric*, is yet conſiſtent with Reaſon, on account of the Rank and Place obſerv'd when the ſeveral Orders are employ'd together in Work, where the more maſſive is always firſt made uſe of, as beſt able to bear and ſuſtain the others.

THE Proportions of the *Doric* Order in general, which render it lighter and leſs maſſive than the *Tuſcan*, have been already eſtabliſh'd in the firſt Part, where 'twas ſaid, that the whole Order conſiſts of thirty-ſeven little Modules, ſeven of which are for the Pedeſtal, twenty-four for the Column, and ſix for the Entablature; which agrees with the progreſſional Advance of three Modules, which the Orders have one above another, by the addition of one Module to the Pedeſtal, and two to the Column: the whole *Tuſcan* Order being but of thirty-four Modules, of which the Column has twenty-two, the Pedeſtal ſix, and the Entablature ſix, which laſt has the ſame in all the Orders. What remains, is, to determine the Proportions and particular Characters of theſe three Parts. The Heights of the principal Parts of the Pedeſtal have been alſo

Chap. II. aſcertain'd, by allowing one eighth Part of the Whole to the Cornice, a Fourth to the Baſe, and a third of the Baſe to its Mouldings, the other two Thirds remaining for the Plinth or Socle.

BASE *of the* Pedeſtal. The Proportions of the Mouldings for the Baſe of the Pedeſtal, are found by dividing the third of the whole Baſe aſſign'd them, into ſeven Parts, as was mention'd in the preceding Chapter, of which, four are given to the Torus next upon the Socle; and three to the hollow with the Fillet under it, which are the three Members whereof theſe Mouldings were ſaid to conſiſt. The Projecture of the Torus is that of the whole Baſe; the Advance of the Hollow is one Fifth and a half of the little Module beyond the Naked of the Die, or Trunk. Authors differ in the Character of this Baſe. *Palladio* gives it a fourth Member, which is a Square plac'd between the Torus and the Fillet of the Hollow. *Scamozzi* puts an inverted Cima there. *Vignola* and *Serlio* make it more plain; I have follow'd them, as moſt ſuitable to the Order which of itſelf is plain: and, as I aſſign'd but two Members for the Mouldings of the Baſe of the *Tuſcan* Pedeſtal, I allow three to the *Doric*, and continue the ſame progreſſive Augmentation in the other Orders, increaſing the number of the Members, as the Orders advance in Delicacy.

CAP *of the* Pedeſtal. The Cornice or Cap of the Pedeſtal, which is divided into nine Parts, has a Hollow with a Fillet thereon, which bears a Drip crown'd only with a Square: The Drip has five of theſe nine Parts, and its Square one. The Projecture of the Hollow with its Fillet, is one fifth and a half of the little Module, beyond the Naked of the Die; that of the Drip is of three, and that of its Square is of three and a half. The Character of this Cornice is different among Authors: *Palladio* and *Vignola* give it five Members, and *Scamozzi* ſix: *Serlio* makes it plainer, allowing it but four Members; and I have imitated him in that, becauſe it agrees with the Proportion which this Order ſhould bear to the others, according to the progreſſive Augmentations before explain'd.



BASE of the Column.

Vitruvius gives no Baſe to the *Doric* Column, and ſays that the principal Difference between the *Doric* and *Ionic* Orders, is, that the Column of the latter has a Baſe. Thus we find it in the Theatre of *Marcellus*, where the *Doric* Column has no Baſe; on the other hand, the *Doric* Order of the *Coliſeum* has a Baſe, though differing from that which moſt of the *Moderns* give to this Order, which is that *Vitruvius* calls the *Attic* Baſe, and whoſe Proportions he has deſcrib'd. Hence it is that we find three ſorts of Baſes in the *Doric* Order: The firſt is the *Attic* Baſe of *Vitruvius*, which has a Plinth, a large Torus below, a leſſer above, and a Scotia between them: The ſecond is the Baſe of the *Doric* Order of the *Coliſeum* which has neither the leſſer Torus nor Scotia, but only a ſort of blunt inverted Cima, between the Cincture at the Foot of the Shaft, and the large Torus. The third is ſtill more plain, having no more on the Plinth than a large Torus and an Aſtragal, ſo that in this Baſe, as in the *Tuſcan*, the Cincture at the Foot of the Column's Shaft, makes part of the Height of the Baſe, which in all the other Orders ought to have the Semi-diameter of the Column below, without including this Cincture.

THE

Chap. II. The *Attic* Base of *Vitruvius* being most in Use, I have chosen that, and given its Members the Heights found in his Division thereof, which is very regular and methodical. The whole Height of the Base being parted into three, the Plinth has one; the remaining two being divided into four, the uppermost is for the lesser Torus; the other three being again divided into two, the lower Part is for the great Torus, and the other for the Scotia, one Sixth of which is allow'd to each Fillet. The Heights of these Parts may be found by another Method, *viz.* by dividing the whole Base into three Parts, into four, and into six, giving a Third to the Plinth, a Fourth to the great Torus, as much to the Scotia, with its Fillets, and a Sixth to the lesser Torus: for the Divisions of the Parts are equal both ways.

In the Works of the *Antique*, as likewise in *Modern* Authors, the Proportions of the Parts of this Base are different. The Plinth in the *Coliseum* is higher by one Minute and a half, than the ten which *Vitruvius* allows it; *Serlio* makes his of nine Minutes and a half; and *Cataneo* gives but nine. The great Torus also has different Heights, that of the *Coliseum* is higher by half a Minute than the seven and a half which *Vitruvius* assigns; and *Scamozzi* makes his of eight and a half. The upper Torus in *Scamozzi*, is likewise larger by a Minute, and that in *Palladio* by half a Minute. Some, as *Barbaro*, *Cataneo*, *Viola*, and *De Lorme*, make the lower Fillet of the Scotia larger than the upper one, others make them equal, and with more Reason in my Opinion; an Inequality here not being so necessary, as in the Scotias of the Bases of the other Orders, where the Fillets touch, one a Torus, or a Plinth, and the other an Astragal, which being Members of a very unequal Thickness, require that the Fillets which are contiguous to them, should be also of a different Size, but it's otherwise in the *Attic* Base, where the Difference between one Torus and the other is inconsiderable.

The Projectures of the Mouldings of this Base are regulated by the Division of the Module into five Parts, of which, as has been said, three give the utmost Extent of the Bases of Columns, in all the Orders: the first of these gives the Projecture of the Cincture at the Foot of the Shaft, the second bounds that of the upper Torus, and the third, that of the lower Torus and Plinth. For the Projectures of the Scotia, the middlemost of these three Parts is again divided into three, taking one for the upper Fillet, two for the under Fillet, and three for the Depth of the Hollow of the Scotia.

Authors are sufficiently agreed upon the Character of this Base, except as to the Turn which some give the Cavity of the Scotia, which they hollow and sink down below the upper Edge of the lower Fillet. This we find practis'd in some Buildings of the

Antique.

Antique, as in the Portico and inner Work of the *Pantheon*, in the three Columns of *Campo Vaccino*, the Frontiſpiece of *Nero*, and the Temple of *Bacchus*: But there are many more Buildings of good Eſteem where this Cavity is not ſo wrought, as the Theatre of *Marcellus*, the Temple of *Manly Fortune*, that of *Veſta*, of *Concord*, of *Fauſtina*, and of *Peace*; the Baſilic of *Antoninus*, the Baths of *Dioclefian*, the *Coliſeum*, the Arches of *Titus*, *Septimius*, *Conſtantine*, and the *Goldſmiths*. Some *Moderns*, as *Vignola*, *Scamozzi*, and *Viola*, have ſunk this Hollow below the Edge of the Fillet, but the greateſt part have not done it; and indeed it ſeems to afford no Beauty, but rather to weaken the Edge of the under-Fillet, which it makes ſharp, and a Receptacle for Water and Dirt, which deſtroy and ſpoil the Stone. There is one Particular more in the Plinth of this Baſe, which *Palladio* and *Scamozzi* have practic'd, without any Example of the *Antique* that I know of, which is, that inſtead of making it directly plum and ſquare, they make it deſcend with a Sweep to the Noſe of the Cap of the Pedeſtal, which is really to aboliſh and deſtroy this eſſential Part of the *Attic* and *Corinthian* Baſe. For though it is true, that in ſome Buildings, as in the *Coliſeum*, the Pedeſtals have the upper Part of their Caps cut thus, with a Sweep; yet this Sweep is not taken from the Plinth of the Baſe of the Column, which remains intire, but from the Cornice, or Cap of the Pedeſtal.

Vignola does not approve of the Uſe of this Baſe, either in the *Doric*, or *Corinthian* Orders, but thinks it altogether improper, although the *Ancients* us'd it at leaſt in the *Corinthian* Order, as in the Temples of *Veſta*, of *Peace*, of *Fauſtina*, in the Frontiſpiece of *Nero*, in the Baſilic of *Antoninus*, in the Porch of *Septimius*, and in the Arch of *Conſtantine*. The Baſe which this Author gives the *Doric* Order, is that of the third ſort beforemention'd, where there is but one Torus with an Aſtragal.

of the Column.

What is particular in the Shaft of the *Doric* Column, is its Flutings, which ought not to exceed the Number of twenty, nor be cut ſo deep as in the other Orders, where they are hollowed to an entire Semi-circle; a fourth, or even a ſixth Part, being ſufficient for theſe. Beſides, here is no Space left between the Flutings, but a bare Ridge or Angle, made by the two curve Lines which form the Cavity. To draw theſe Flutings, the Periptery of the Column being divided into twenty equal Parts, deſcribe a Square, whoſe Side is equal to one of theſe Parts; from the Center of this Square, draw the arch'd Line, which makes a Quarter of a Circle from one Corner of the Square to the other. To make theſe Flutings ſtill ſhallower, inſtead of a Square, deſcribe an equilateral Triangle, the vertical Angle of which ſhall be the Center for the

Chap. II. Curve-line. The First Way, which is after *Vitruvius*, is most in Use. *Scamozzi* likes neither of these Sorts of Flutings, as not accounting them graceful: however, they are much in Use, and *Vitruvius* says they are particular to the *Doric* Order: He also affirms, that instead of Flutings, they sometimes make twenty Cants, which they leave quite flat, without any Cavity. There are but few Examples of these canted Columns, nor can they have a good Effect, it being impossible, but that Angles so blunt as those made on the Periptery by the Lines of two Sides, each of which has but the twentieth Part of the Circumference of the Circle, should appear confus'd and disagreeable, through the Difficulty, there is, of making the Separation of the two Faces sufficiently visible and distinct. On this Account it is, I prefer the Flutings of *Vitruvius*, whose Cavity is describ'd by the Center of the Square, before those made from the Point of the Triangle; because the former being deeper, the Angles of the Flutings are more acute, and the Flutings, by consequence, more distinct and conspicuous.

Capital. The Heights of the Members of the Capital are found by parting its whole Height, which is half the Diameter of the Column below, into three as in the *Tuscan*, giving one to the Abacus; one to the Ovolo, with the three Annulets beneath, which are in the place of the Astragal in the *Tuscan* Capital; and leaving the other third Part entirely to the Gorgerine or Neck; whereas, in the *Tuscan*, the Ovolo possesses one entire Third, and the Astragal and Fillet under it, are taken out of the part allowed the Neck. I have imitated *Vitruvius*, whom most of the *Moderns* have also followed. *Palladio*, *Scamozzi*, and *Alberti* prescribe other Proportions: *Alberti* makes the whole Capital near half as high again as *Vitruvius*, and gives also the principal Members, Proportions quite different from his. *Palladio* and *Scamozzi*, though they alter not the Height of the entire Capital, yet they enlarge that of the Abacus, and lessen that of the Neck. Both the one and the other have Precedents in the Works of *Antiquity*; for, at the *Coliseum*, the whole Capital is eight Minutes and three Quarters higher than that of *Vitruvius*; In the Theatre of *Marcellus*, it is only three Minutes higher: but, in the latter, the Proportions of the Members, with respect to each other, are more different from those of *Vitruvius*, than those of the *Coliseum* are, the Abacus being much greater in Proportion, and the Quarter-round much less.

The Heights of the lesser Mouldings are also found by dividing and subdividing into Three: for, the whole Abacus being divided into three, the upper Part is given to the Cima or Ogee, and this being again divided into three, one is allowed to the Fillet, the other two for the Moulding. So likewise that part between the A-

bacus

bacus and Neck, being divided into three, two are given to the Quarter-round; and the third being ſubdivided into three; each of the Annulets have one of them.

The Projectures are determined, as in the *Tuſcan*, by Fifths of the Module; that of the whole Capital having three, from the Naked of the Column at the Top. The firſt of theſe being divided into four, one is given to each of the Annulets: the ſecond limits the Ovolo; and the third being alſo divided into four, the firſt is for the Projecture which the Square of the Abacus makes beyond the Quarter-round, and the three others direct the Parts of the Ogee.

There are Inſtances of oppoſite Exceſſes given the Projecture of this Capital in that of the *Coliſeum*, and *Alberti*: for, in the former, the Projecture is of five Parts, ours has but three, and that of *Alberti* has no more than two.

The Character of this Capital is different among Authors, in that of the *Coliſeum* there is an Ogee inſtead of the Annulets, which *Scamozzi* has alſo followed; others, as *Palladio*, *Scamozzi*, *Vignola*, *Alberti* and *Viola*, have put Roſes under the Corners of the Abacus, and in the Neck of the Capital. One may reckon, as belonging to the Character, the Projecture of the whole Capital, which *Alberti* and *Cataneo* have made extremely ſmall, and which, in the *Coliſeum*, is exceſſively large; this retrenching and enlarging, being a thing that will infallibly give Offence, when one is never ſo little accuſtom'd to ſee Capitals made after the ordinary Proportion, which is thirty-ſeven Minutes and a half in *Vitruvius*, reckoning from the middle of the Column; for that of the *Coliſeum* extends to forty-ſeven and a quarter; and *Alberti* and *Cataneo* make it but thirty-two and a half: *Bullant* allows it forty, *Palladio* thirty-nine, *Vignola* and *Viola* thirty-eight: Thoſe, who with us, have followed *Vitruvius*, are the Theatre of *Marcellus*, *Barbaro*, and *Serlio*.

The Entablature in the *Doric* Order, is not divided into twenty Parts, as in the other Orders, but into twenty-four, of which ſix are given to the Architrave, nine to the Freeze, and as many to the Cornice, including the Member that runs immediately over the Tryglyph, which *Vitruvius* calls its Capital. As to the Proportions of the Architrave and Freeze, which are thoſe given by *Vitruvius*, and which have reſpect to the Diameter of the lower Part of the Column, whereof the Architrave has half which makes the *Doric* Module, and the Freeze a Module and a half; all the *Modern* Architects have followed them, tho' we find they are not ſtrictly obſerv'd in the *Antique*: For, in the *Coliſeum*, the Architrave has fifteen Minutes too much; in the Ruins of *Albano*, and in the Baths of *Diocletian*, cited by Monſ. *Chambray*, the Architraves are alſo greater than in *Vitruvius*, but the Difference is only one Entablature.

or

Chap. II. of two Minutes. As to the Cornice, it is not ſo high in *Vitruvius*, nor in the Theatre of *Marcellus*, where it has ſeven Minutes and a half leſs than we here give it; but that of the *Coliſeum* is much greater, having ten Minutes more.

Architrave. The Architrave being divided into ſeven Parts, one is given to the Liſt or Band on the Top: under which are plac'd the Drops that ſeem to hang from a ſmall Square: the Drops and Square together, have a ſixth Part of rhe Height of the Architrave; this ſixth being divided into three, one is given to the ſmall Square, the two others to the Drops. The Extent of the Square and Drops breadthwiſe, is one Module and a half; this Breadth is parted into eighteen, whereof three are given to each of the Drops, which, are ſix in Number, ſo that the upper part of the Drop has one of theſe Parts, and rhe lower Part ſomething leſs than three, becauſe there ought to be a little Interval between the Bottom of the Drops.

The Character of the *Doric* Architrave is very different in the *Antique*, and amongſt Aurhors: That which has been deſcrib'd, is of *Vitruvius*, and of the Theatre of *Marcellus*, which has been followed by *Vignola*, *Serlio*, *Barbaro*, *Cataneo*, *Bullant*, *De Lorme*, and moſt of the *Moderns*. In the *Coliſeum*, it is otherwiſe, being ſet off with all the Members that are in the *Ionic*, and in the *Corinthian* of this Structure, having three Faces and an Ogee above, but no Drops. In the Ruins of *Albano*, and the Baths of *Diocletian*, it has but two Faces, but they are ſeparated by Mouldings, as in the *Corinthian* Order, and under the upper Ogee there are Drops, *Palladio*, *Scamozzi*, *Alberti*, *Viola*, and ſeveral other *Moderns*, have followed this Manner, in giving the Architrave two Faces, but they do not ſeparate them by Mouldings, and the Drops are under the Plat-band, as in *Vitruvius*. There is yet ſome Difference in the Figure of the Drops, which ſome make round as the Fruſtum of a Cone; but, the moſt uſual Way, is to make them ſquare or piramidal; the round ones being reſerv'd for the under Part of the Mutules.

Freeze. The Freeze has nine of the twenty-four Parts of the whole Entablature, which make a Module and a half, of thoſe I call *Doric*, or mean Modules, and two Modules and a Quarter of our little ones: It is generally adorn'd with Tryglyphs, which are a *Doric* Module in Breadth, and are plac'd right over the Drops, which are on the Columns, and in the Spaces between the Columns, by Diſtances equal to the Height of the Triglyphs, and of the Freeze; which makes the Spaces ſquare; theſe Spaces are call'd Metops, and

and are adorn'd with Baſſorelievos of Trophys, Baſons, Sculls of Oxen, and other Things. The Triglyphs have two Channels, or Gutters, ſunk from the upper Part to the lower, in their middle, and two half Channels on their Corners: theſe Gutters are ſo wrought as to make a right Angle. To perform which, the whole Face of the Triglyph being divided into twelve Parts, two are given to each of the Channels, one to each Half-channel, and two to each of the Interſtices or Spaces between, which *Vitruvius* calls the Shanks. The Projecture of the Triglyph from the Naked of the Freeze, ought to be one of theſe Parts and a half. *Vignola*, who allows it but one, makes it apparently too little, becauſe the Gutters, having two Parts in Breadth, their Depth muſt be one Part to make a right Angle; now the Sinking and Depth of the Channel, according to *Vignola*, being equal to the Projecture of the Triglyph, the Half-channel, whoſe Depth is equal to that of the whole one, deſcends to the very Freeze; which it ought not to do; it being neceſſary, that, below the Half-Channel, the Triglyph ſhould ſtill have ſome Thickneſs left. This Thickneſs, in *Palladio*, is but half a Minute; in the Theatre of *Marcellus*, it is one Minute and two Ninths, a ſmall Matter more than I aſſign it, which, is a Mean between that of *Palladio*, and that of the Theatre of *Marcellus*, and is about three Quarters of a Minute.

THAT Part which is call'd the Capital of the Triglyph, is generally attributed to the Freeze of the *Doric* Order: but, being a Moulding, (a Thing not uſual for Freezes to have) I think it ſhould be reckon'd among the other Mouldings of the Cornice: For the Projectures, which this Moulding makes over the Triglyphs of the Freeze, do no more argue it to belong to the Freeze, than the Mouldings which cap the Corbels that are in a Freeze, where, ſuch as accompany their Projectures, are not counted part of the Freeze, but of the Cornice, theſe Mouldings generally taking up all that Part under the Corona, which is an eſſential Part of the Cornice.

THE Space left for the Cornice, which is equal to that of the Freeze, being nine Parts, the firſt is for the Capital of the Triglyph; the five Parts next above, are for the Hollow, Mutule, Ogee and Corona; the three laſt are for the great Cymaiſe, and for the Ogee that is over the Corona. To have theſe Mouldings more particularly; the ſecond and third Part being divided each into four, which makes eight Particles; the lower five are given to the Hollow, and the ſixth to its Fillet: The fourth Part, with the two Particules which remain of the third Part, are for the Body of the Mutule. Cornice.

Chap. II. Mutule. The fifth Part being alſo divided into four Particles, the two loweſt are given to the Ogee, without a Fillet, which caps the Mutule. The ſixth Part, with the two Particles which remain of the fifth, are for the Corona. The ſeventh Part, being alſo divided into four Particules, the three loweſt are given to the Ogee next on the Corona, with its Fillet; and, laſtly, the ninth, being parted into two, one is given to the Fillet, or Square of the great Cymaiſe, which takes up the Remainder to the Ogee, which crowns the Drip. This Diviſion of the *Doric* Cornice, which ſeems confus'd and obſcure in Diſcourſe, is very clear and intelligible in the Figure, for, all the Heights of the Mouldings, are regulated by two Diviſions only; to wit, by that of the whole Cornice into nine Parts, and, that of each Part into four.

Under the Mutule, are cut thirty-ſix Drops, in ſix Rows of Six each. It has been already mention'd, that theſe Drops, of the Soffito of the Cornice, ſhould be round, and ſhap'd like ſmall Cones, whoſe Points, or Tops, are ſunk into the Under-bed of the Corona, or Mutule: The Mutule has a hollow Groove, wrought only on the Fore-edge, like that which is made under the Corona of the *Ionic* Cornice.

The Character of this Cornice is three-fold: there is one very plain, as that of *Palladio*, *Serlio*, *Barbaro*, *Cataneo*, *Bullant*, and *De Lorme*; where there are neither Mutules nor Dentels. There is another, more compounded, having Dentels; as, that of the Theatre of *Marcellus*, of *Scamozzi*, and of *Vignola*. The third is ſtill more ſo, having Mutules, but no Dentels. I have choſen this laſt, on account of the Mutules, following the Deſigns which *Alberti*, *Vignola*, and *Pyrrho Ligorio* have given us, as being conformable to ſome very *ancient* Works, whoſe Fragments they found: And, becauſe the Mutules, are, according to *Vitruvius*, eſſential Parts of the *Doric* Order, whereas, the Dentels are particularly appropriated to the *Ionic*. I make the great Cymaiſe with an Ogee, and not with an Hollow, as 'tis held to have been in the Theatre of *Marcellus*, and, as *Vignola* and *Viola* have done; becauſe the Hollow is weaker, and more ſubject to be broke than the other; it being againſt reaſon, that an Order, whoſe Property is to be maſſive and ſtrong, ſhould have Members more tender, than the more delicate Orders: and, herein, I have followed *Palladio*, *Scamozzi*, *Serlio*, *Barbaro*, *Cataneo*, *Alberti*, *Bullant*, and *De Lorme*: If any one has a mind to make it a Hollow, becauſe, ſome are of Opinion, 'tis that which *Vitruvius* calls the *Doric* Cymaiſe, he may do it, keeping the ſame Proportions which were given for the great Cymaiſe, allowing

lowing no more to the Fillet, or Square of the Hollow, than half of one of the nine Parts, and giving what remains between that and the Upper-bed of the Ogee of the Corona, to the Curve of the Hollow. Over the Capital of the Triglyph, where *Vitruvius* would have a *Doric* Cymaise, I have put a Hollow, or half Scotia, as *Palladio*, *Viola*, and *Bullant*, have done; and for the forementioned Reason, namely, that the Hollow is the *Doric* Cymaise; I find two other Sorts of Mouldings plac'd here; in the Theatre of *Marcellus* 'tis an Ogee, and *Vignola* makes it of a Quarter-round; that which inclines me to make it a Hollow, is the Authority of *Barbaro*, who says that the Hollow is the *Doric* Cymaise.

The EXPLANATION of PLATE III.

A *THE Base that* Vitruvius *calls* Attic, *which is used for the* Doric *Order.*

B *The Base of the* Doric *Order in the* Coliseum.

C *The Base of the* Doric *Order after* Vignola.

D *Channellings, or Flutings, cut according to* Vitruvius.

Δ *The third Manner of cutting the Shaft of the* Doric *Column, taught by* Vitruvius, *where, instead of Flutings, there are only Cants, without any Cavity or Sinking.*

E *Flutings according to* Vignola.

F *The Capital of* Vitruvius.

G *The Capital of the* Doric *Order of the* Coliseum.

H *The Capital of* Alberti.

I *The Entablature taken partly from the Theatre of* Marcellus.

K *The Soffit of the Entablature.*

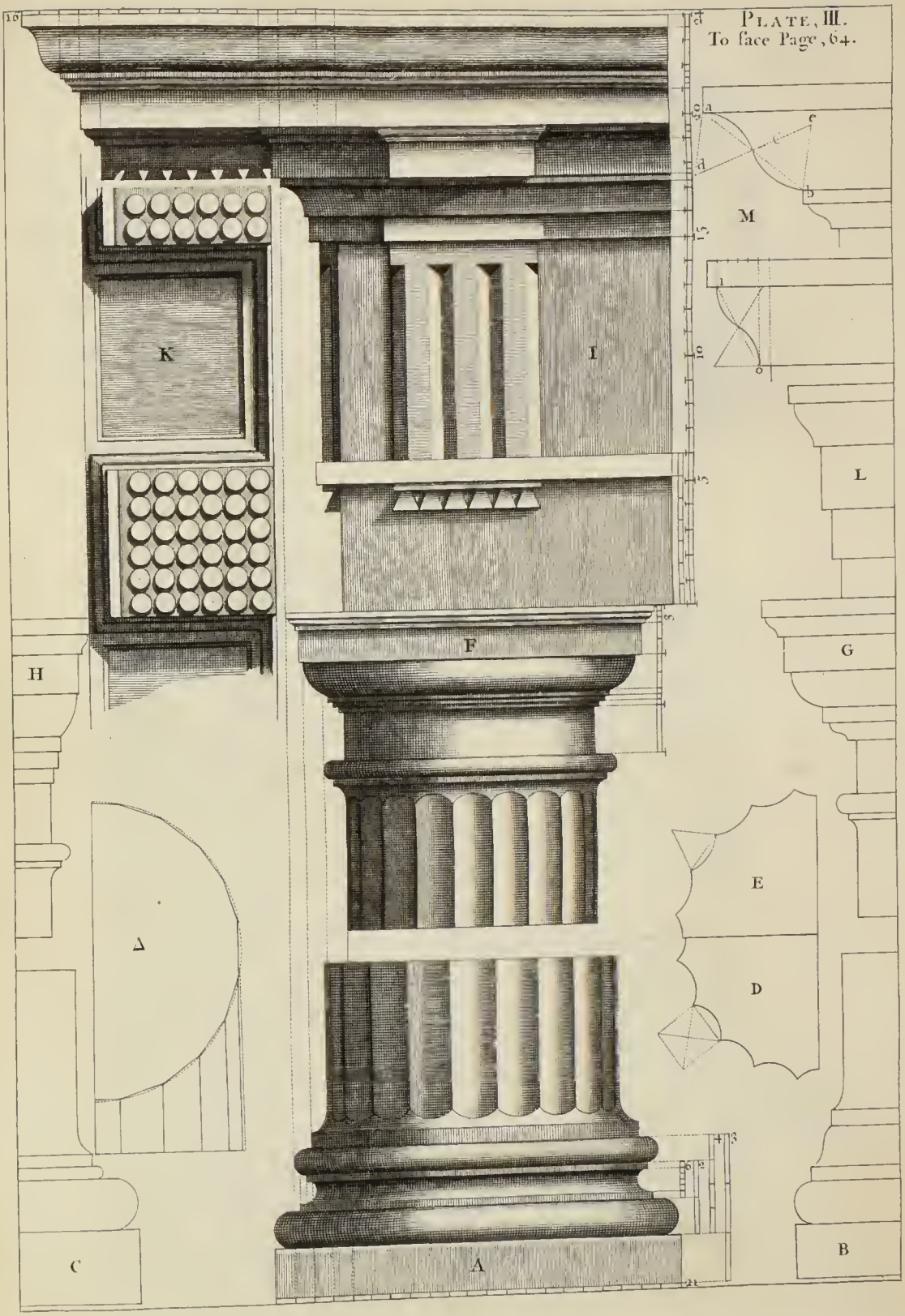
L *The Architrave of the* Doric *Order of the* Coliseum.

M *Figure to explain the Manner of drawing the Cymaise and Ogee.*

To describe the Cymaise, draw a right Line from the lower Corner of the Fillet, mark'd a, *to the upper Corner of that of the Ogee mark'd* b; *divide this Line equally in two at* c, *and, on each Half make an equilateral Triangle; the Points of these Triangles, mark'd* d *and* e, *are the Centers of the two Portions of a Circle, each, of which, form half the Sweep of the Cymaise. To make this Sweep more curved as is sometimes done, when we would give the Moulding less Projecture, the Lines of the Sides of the Triangle, at the Intersection of which is the Center, must be shortned.*

The Description of the Ogee, is much after the same Manner; Divide the Projecture, given to the Ogee and its Fillet, into five or six Parts, take one of these Parts for the Projecture, which the Ogee has beyond the Member, upon which it is set, provided it be not an Astragal, for the lower Part of an Ogee has no Projecture over an Astragal; another Part is for the Projecture which the Fillet has beyond the Ogee at Head: from these two Points o *and* i, *draw a right Line, which divide into two Parts, as in the Cymaise, and proceed in the same Manner by two Triangles, and by the Portions of Circles describ'd from Centers on the Points of the Triangles, to draw the Contour. The Curvature of this Member is sometimes so great, that each Part is almost an entire Semi-circle, as is seen in the upper Ogee of the Architrave of* Constantine's *Arch.*

PLATE, III.
To face Page, 64.



CHAP. III.

Of the IONIC *Order.*

THE Proportions of the *Ionic* Order, bear the ſame Relation to them of the *Doric*, and the other more delicate Orders, as thoſe of the *Tuſcan* do to the *Doric*, except as to the Diminution of the Column, which is much greater in the *Tuſcan*, than in the others, where it is always alike. The Character of the *Ionic* Order, is much more particular, the Baſe of the Column, the Capital, and the Cornice of the Entablature, being ſuch, as render it more different from the other Orders, than the *Doric* is from the *Tuſcan*.

THE whole Order, as was ſaid before, conſiſts of forty little Modules, of which, the Pedeſtal has eight, the Column twenty-ſix, and the Entablature ſix. Theſe Parts of the Pedeſtal are determin'd as uſual, as may be ſeen in Plate I. the Baſe having a Fourth of the whole Height of the Pedeſtal, the Cornice one Eighth, and the Mouldings of the Baſe one Third of the whole Baſe.

BASE *of the* Pedeſtal.

THE Mouldings of the Baſe of the Pedeſtal, which are two in the *Tuſcan* Order, and three in the *Doric*, are four here: namely, an inverted Cymaiſe with its Fillet, and a Hollow, with its Fillet under it. To find the Heights of theſe Mouldings, the Third of the Baſe, which, in the *Tuſcan*, is divided into ſix, and, in the *Doric*, into ſeven, is here divided into eight: four of theſe Parts are given to the Cymaiſe, and one to its Fillet; two to the Hollow,

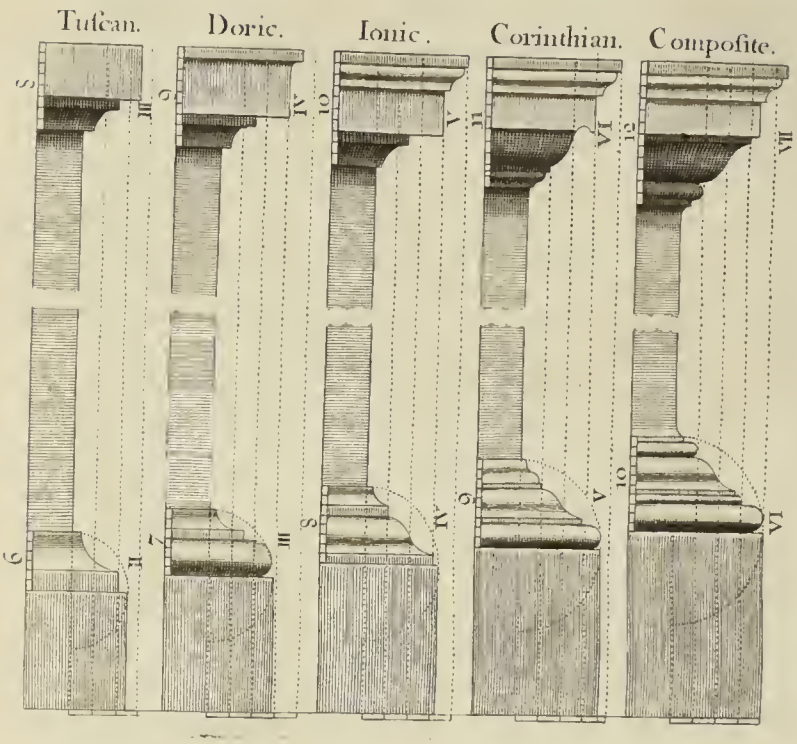
Chap. III. and one to its Fillet. The Projecture of the Hollow is one Fifth of the little Module, taken from the Naked of the Die, that of the Fillet of the Cymaiſe is three Fifths.

The Character, of this Baſe, is taken from the *Ionic* Order of the Temple of *Manly Fortune*, and differs from it in nothing, but that the latter has a Fillet between the upper Part of the Cymaiſe, and the Fillet of the Hollow; and, that the Fillet of the Cymaiſe is extraordinary large. *Palladio* and *Scamozzi*, inſtead of the little Fillet, which is between the Cymaiſe and the Hollow, put an Aſtragal.

Cornice *of the* Pedeſtal.

The Members of the Cornice, which are three in the *Tuſcan*, and four in the *Doric*, are five in number here: namely, a Hollow with its Fillet above, and a Drip, or hanging Square, crown'd with an Ogee and its Fillet. To find the Heights of theſe Members, divide that of the whole Cornice into ten Parts, as it is divided into nine in the *Doric*, and eight in the *Tuſcan*: two of theſe Parts are given to the Hollow, and one to its Fillet; four to the Drip, two to the Ogee, and one to its Fillet. The Projecture of the Hollow is one Fifth and a Half of the little Module, taken from the Naked of the Die, that of the Drip is three; and that of the Ogee and its Fillet, is four.

The Character of this Cornice has no Agreement either with that of the *Antique*, or the *Moderns*: In the Temple of *Manly Fortune*, it conſiſts of ten Members, which make it ſtrangely confus'd: and one may ſay, that the Cornices of *Palladio* and *Scamozzi* are alſo too full of Members for the Order; thoſe that they preſcribe for the *Corinthian* and *Compoſite*, not having more than they allow this.



Vitruvius deſcribes a Baſe for the *Ionic* and *Corinthian* Columns, which moſt of the *Moderns* uſe only for the *Ionic*, and which is found in none of the *Ionic* Works that remain of the *Ancients*, who always give it the *Attic* Baſe: Some of the *Moderns*, as *Alberti* and *Viola*, give it the *Corinthian* Baſe, and only follow *Vitruvius*, in that they give, as he does, the ſame Baſe to the *Ionic* and *Corinthian* Columns. BASE *of the* Column.

The Proportions of this Baſe, according to *Vitruvius*, are found by dividing the whole Height of the Baſe into three; one of which is given to the Plinth, as in the *Attic* Baſe; the Remainder being divided into ſeven Parts, three are given to a Torus, which is at the upper Part of the Baſe, what remains, is again divided into two, and each of theſe two Parts into ten others, of which, two are for a Fillet under the Torus, five for a Scotia, one for the lower Fillet of the Scotia, and two for an Aſtragal, which is accompanied with another Aſtragal of the ſame Bigneſs, and with another Scotia, having the ſame Dimenſion and the ſame Fillets as the former, the greater Fillet being upon the Plinth.

Vitru-

Chap. III. *Vitruvius* has not given the Projectures of this Baſe; I take them as uſual, by Diviſions of the little Module into five; giving two Fifths and a Half to the Projecture of the Torus, two to that of the Aſtragals, one and a half to the Fillet under the Torus, one and three quarters to the Fillets next the Aſtragals, and two and three quarters to the Fillet which lyes upon the Plinth.

The Character of this Baſe has ſomething in it ſo odd, by reaſon of the largeneſs of the Torus above, and the Weakneſs of the Fillet next upon the Plinth, that 'tis no wonder the *Ancients* rejected it: and I place it here, only to diſtinguiſh the Orders, by whatever each of them may have in particular. *De Lorme* propoſes another *Ionic* Baſe, which he pretends to have found in ſome *Antique* Buildings: It differs from that of *Vitruvius*, in that he puts two Aſtragals, of different Bigneſs, between the Plinth and the Fillet of the firſt Scotia.

SHAFT *of the* Column. That which renders the Shaft of the *Ionic* Column different from that of the *Doric*, is the manner of its Flutings, which are common to this, and to the *Corinthian* and *Compoſite*. Theſe Flutings differ from the *Doric* in their Number, which is twenty-four, and, ſometimes, thirty-two, according to *Vitruvius* and the *Moderns*, whereas the *Doric* has but twenty; though, in the Temple of *Manly Fortune*, which is the only fluted one of the *Antique Ionics*, at *Rome*, there are but twenty Flutings: But their Character has ſtill ſomething more particular, they not being ſunk ſhallow, as in the *Doric*, but having the uſual Depth of the entire Semi-circle; for there are few Columns like thoſe of the *Pantheon*, where the Flutings are hollowed leſs than the Semi-circle, or like thoſe of the Temple of *Jupiter Fulminans*, where they are ſunk deeper. In ſome Buildings, the lower Third of the Flutings is half fill'd up, as it were by a Staff, or thick Rope, which makes them call'd cabl'd Columns, that have this kind of Flutings. Sometimes, inſtead of Ropes or Staves, the Bottom of the Flutings is only fill'd up near the Edge of the Side, as it is in the Columns within the *Pantheon*: but, as theſe Ways of filling the Flutings, are found in very few Works, one may affirm, that they ought to be but ſeldom put in Practice, and Reaſon directs they are not to be made uſe of, but when Columns are ſet upon the Level of the Pavement, and not when they are rais'd upon Pedeſtals, or in ſecond Orders; though, in the Arch of *Conſtantine*, the Columns that are ſet upon the Pedeſtals are cabled; becauſe this filling up is for no other Purpoſe, than that the Sides might not be too much weakn'd by the Flutings, and that they might not be broke by every Blow which their ſtanding low expoſes them to: for, as to the Example of *Conſtantine*'s Arch, there can be little Authority in that, it being the general Opinion,

Opinion, that this Arch was built with the Ruins of ſome other Structure, where 'tis very probable the Columns ſtood upon the Level of the Pavement. The Proportion of the Hollow of the Flutings, to the Liſt between them, which is what we call the Side, is not perfectly determin'd, but the mean Proportion is to give the Side a third Part of the Breadth of the Fluting: that is to ſay, each twenty-fourth Part of the Periphery of the Column being divided into four, three of them ſhould be given to the Fluting, and one to the Side.

These Flutings have different Characters, as to the Manner how they terminate towards the Sweeps at the Bottom and Top of the Shaft. The moſt uſual, is to make them round as the Head of a Niche: Sometimes theſe Extremities are cut quite ſtrait, as in the Temple of *Veſta*, at *Tivoli*; ſometimes they are cut juſt contrary to the firſt mention'd, the Naked of the Column making a Semi-circle on the Fluting, as they were at the Tutcles at *Bourdeaux*.

The *Ionic* Capital conſiſts of three parts: namely, an Abacus, which has no more than an Ogee and its Fillet; a Rind, which produces the Volutes or Scrouls, and an Ovolo, or Quarter-round; for the Aſtragal, that is under the Ovolo, belongs to the Shaft of the Column. The middle part is, by ſome, call'd the Rind or Bark, becauſe it reſembles the thick Bark of a Tree, which having been laid on the Top of a Vaſe, whoſe Brim is repreſented by the Ovolo, ſeems, in Drying, to be ſhrunk up underneath. *Vitruvius* ſays, that this twirling, which the Volutes make on both Sides the Capital, repreſents the Locks of Hair, which turn into Rings or Buckle, on each Side the Womens Faces. Capital.

To find the Height of this Capital taken from the Top of the Abacus down to the Aſtragal, the little Module muſt be divided into twelve Parts, eleven of which are given to the whole Capital, the Abacus having three, namely, two for its Ogee, and one for its Fillet; the Rind has four, one of which is for its Rim; and the Ovolo has alſo four. From the Top of the Abacus, to the Bottom of the Volute, are nineteen of theſe twelfth Parts of the little Module.

To deſcribe the Contour of the Volute, you muſt begin at the Aſtragal, on the Top of the Column, which ſhould have two of the foremention'd Twelfths in Thickneſs, and extend to the right and left, as much as the Diameter of the Column below. This Aſtragal being drawn on the Face, where the Volute is to be trac'd, a level Line muſt be drawn through the middle of the Aſtragal, and continued beyond the Extremity thereof: then, from the Top of the Abacus, let fall Perpendicular to the former, another Line

Chap.III. paſſing through the Center of the Circle, whoſe half deſcribes the Out-line of the Aſtragal: This Circle, which has two Twelfths in Diameter, is, by *Vitruvius*, call'd the Eye of the Volute; and 'tis within this Circle, the twelve Points are to be plac'd, which ſerve for Centers to the four Quarters of each of the three Revolutions that compoſe the Scroul. To find theſe twelve Points, in the Eye of the Volute, deſcribe a Square, whoſe Diagonals, are one in the Horizontal Line, and the other in the Plum-line, interſecting each other in the Center of the Eye. From the middle of the Sides of this Square, draw two Lines, which divide the Square into four, and each Line being parted equally into ſix, they give the twelve Points required. To deſcribe the Volute, ſet the fix'd Leg of the Compaſſes on the firſt Point, which is in the middle of the inner and upper Side of the Square, and extend the other Leg to the Place where the perpendicular Line cuts that of the lower Part of the Abacus, and draw a Quarter of a Circle outwards and downwards, till it meets the horizontal Line. From this Place, having ſet the fix'd Leg in the ſecond Point, which is in the middle of the upper and outer Side of the Square of the Eye, make the ſecond Quarter of a Circle, turning downwards till it meets the Plum-line, and from thence, having plac'd the fix'd Leg in the third Point, which is in the middle of the lower and outer Side of the Square of the Eye, draw the third Quarter of a Circle, turning upwards and inwards till it cut the horizontal Line. From thence, having ſet the fix'd Leg in the fourth Point, which is in the middle of the lower and inner Side of the Square of the Eye, deſcribe the fourth Quarter of a Circle, turning upwards and outwards, till it touch the Plum-line. From thence, having plac'd the fix'd Foot in the fifth Point, which is under the firſt, tending towards the Center, draw the fifth Quarter of a Circle, and, in the ſame manner, the ſixth from the ſixth Point, which is below the ſecond, and the ſeventh from the ſeventh Point, which is next the third; and thus going on from Point to Point in the ſame Order, you form the twelve Quarters, which make the ſpiral Circumvolution of the Scroul.

The Thickneſs of the Edge, or Border, which is on the Face of the Volute, and which, under the Abacus, is one of thoſe twelve Parts, as has been ſaid, ought to go ſtill narrowing, by little and little, till it comes to the Eye: this Border is rais'd above the Volute, one twelfth Part of the Breadth of the Rind, which was four of the Twelfths beforemention'd: Now, as the Rind grows narrower and narrower, and this Border diminiſhes proportionably, its Elevation ought alſo to diminiſh, and this Diminution is determin'd by the Breadth of the Rind of which, it is always the twelfth Part. This Border is deſcrib'd by a ſecond Draught, in the ſame Manner

as

as the firſt was, placing the fix'd Foot of the Compaſſes in twelve other Points, very near the firſt, namely, at the fifth part of the Diſtance that is between the former, under which they ought to be, reckoning towards the Center of the Eye. To find the Projecture of the Abacus, you give the Ogee and its Fillet a Projecture beyond the perpendicular Line, equal to the Height of the Ogee, which is two Twelfths.

The Projecture of the Ovolo is equal to its Height, which is four Twelfths. This Member is carv'd with an Ornament, commonly call'd an Egg, becauſe of its oval Shape. The *Greeks* call'd it *Echinos*, becauſe they thought theſe Ovals repreſented Cheſnuts half inclos'd in their Shell, which is cover'd with Prickles, like thoſe of a Hedghog, call'd *Echinos* in *Greek*; five of theſe Eggs are cut in each Face of the Capital, of which there are but three that appear entire, the two that are near the Volutes, are partly cover'd by three ſmall Husks, which iſſue out of a Leaf, whoſe Stalk lyes upon the firſt Circumvolution of the Scroul.

The Volutes hitherto deſcrib'd, are on the Face of the Capital in Front, and on that behind it; the Faces, on the Sides, are of another Faſhion. *Vitruvius* calls this Part on the Side, the Pillow. The *Moderns* give it the Name of *Balluſter*, becauſe it reſembles the Cup of the Flower of the wild Pomegranate, call'd *Balauſtion* in *Greek*. This *Balluſter* is double, having a Pomegranate in the middle. Its Edges, towards the Volutes, are two Twelfths, according to *Vitruvius*; that is, the Breadth of the Eye. The Profile, or Contour of the Pomegranate, is, by the ſame Author, call'd the Girdle or Belt; but the Out-line of it, which he makes a Semicircle, agrees not with what we find given it in the Works of the *Antique*, where it has an irregular Form not to be deſcrib'd without a Figure. This Balluſter is carv'd with great Leaves, as the Pomegranate is likewiſe cover'd with ſmall Leaves of Laurel, rang'd like Fiſhes Scales.

The Proportions of this Capital, which are thoſe of *Vitruvius*, but explain'd in a more eaſy and regular Manner, agree not in every thing with the Examples left us by the *Antients* and *Moderns*: Its Height, which I make of eighteen Minutes, as it is in the *Coliſeum*, and which come near the Proportion *Vitruvius* gives it, is twenty-one Minutes and two Thirds in the Theatre of *Marcellus*, and twenty-one and a Half in the Temple of *Manly Fortune*. The Echinus, or Ovolo, which I make of the ſame Height as the Rind or Bark, is larger than all the reſt of the Capital, in the Temple of *Manly Fortune*; and it is leſs than the Rind in the Theatre of *Marcellus*. The Voluta, whoſe Height I make twenty-ſix Minutes and a Half, is but twenty-three and a Quarter in the Temple of *Manly Fortune*,

twenty-

Chap. III. twenty-four and a Half in the *Coliſeum*, and twenty-ſix and a Quarter in the Theatre of *Marcellus*. The Breadth of the Volute, which I make of twenty-three Minutes and a Third, as in the *Coliſeum*, is twenty-five and a Quarter in that of *Manly Fortune*; and twenty-four in the Theatre of *Marcellus*. The ſame Diverſity of Proportions, is found among the *Modern* Authors, the Ovolo, which is greater than the Rind in *Palladio*, *Vignola*, *Barbaro*, *Bullant*, and *De Lorme*, being equal to it in *Alberti* and *Scamozzi*.

The Differences of the Character, are, firſt, that in the *Antique*, as well as in ſome of the *Moderns*, as *Vignola*, *Serlio*, and *Barbaro*, the Eye of the Volute anſwers not the Aſtragal on the Top of the Column, as moſt of the *Moderns* make it, following *Vitruvius*, who, having ſaid, that from the Center of the Eye, to the Bottom of the Volute, there are three Parts and a half, he then adds, that there are three below the Aſtragal for the Deſcent of the Volute: for, from thence, it follows, that the Eye of the Volute, and the Aſtragal, are in the ſame Place, ſince the Dimenſion of the Eye, being one Part, as it is, there is then a half Part from the Center to the under Part thereof, which makes the Space, between the Aſtragal, and the Bottom of the Volute, leſs by half a Part, than that which is from the Center of the Eye.

In the ſecond Place, the Face of the Volutes, which uſually make a ſtrait Flat, is ſomewhat curv'd and convex in the Temple of *Manly Fortune*, ſo that the Circumvolutions go advancing outwards, as they do in the *Compoſite* Order of the Arches of *Titus*, and *Septimius*, and in the Temple of *Bacchus*.

Thirdly, in this Volute of the Temple of *Fortuna Virilis*, the Border, or Rim of the Scroul, is not only a plain Sweep, as uſually, but the Sweep is accompanied with a Fillet. Fourthly, the Leaves which inveſt the Balluſter, are ſometimes long and narrow, either in Water-leaves, as in the Theatre of *Marcellus*, or elſe rafled very ſmall, as *Palladio* and *Vignola* make them: Sometimes they are large after the Manner of the Olive-leaves, which are cut in the *Corinthian* Capital; as they are in the Temple of *Manly Fortune*. Fifthly, on the angular Columns of the Temple of *Manly Fortune*, the two Faces of the Volutes are join'd together at the outward Corner, and the Balluſters meet in the ſame manner at the inner Corner, which was done to hinder the Capitals of the Columns which make the Return, from having their Faces on the Front and Back-part of the Temple, different from thoſe which are on the Sides; namely, one with Volutes, the other with Balluſters; for, by this Means, they appear with Volutes on all Sides.

This Difference of Faces in the *Ionic* Capital, which renders it inconvenient, has oblig'd the *Moderns*, following *Scamozzi*, to change it, in making its four Faces alike, by taking away the Balluſter, bending all the Faces of the Volutes, and hallowing them inwards; as they are in the *Compoſite* Order. There are, however, two Things may be cenſur'd, in the Capital of *Scamozzi*; One is, that the Volute is of an equal Thickneſs, whereas, in the *Ionic* of *Fortuna Virilis*, and every where in the *Compoſite* Capitals, from whence this Volute was taken, it goes, enlarging itſelf, downwards, very gracefully. The other is, that he cauſes the Volute to ſpring from the Echinos, or Ovolo, as from a Vaſe, after the Manner of the *Compoſite* of the *Moderns*, who have introduc'd this Change, contrary to what we find in moſt of the *Compoſite* Works of the *Antique*, where the Bark paſſes over the Ovolo, and under the Abacus, quite ſtrait, and turns only at its Extremities, which form the Volute: for, without that, the Abacus of the *Ionic* Capital, which is only an Ogee, appears too thin a Member, and ſeems to need Support from the Bark, as it has in the *Ionic* Volute of the *Ancients*. I think it may alſo be objected, that the Architects, who make uſe of the Capital of *Scamozzi*, have choſen that Manner of the two, he propoſes, which ſeems leaſt ſuitable to the *Ionic* Order; for this Author makes the Abacus two Ways; one of which, is with a Sweep, as the Volute, as it is in the *Compoſite* Order; the other is left ſtrait, and perfectly ſquare, as it is in the *Ancient Ionic*, and in that of the Temple of *Manly Fortune*, where, the Abacus does not extend itſelf on the Corners of the Volutes, there being only a Leaf, which coming from under the Corner of the Abacus, turns itſelf down upon the Volute, and deſcends, till it comes juſt againſt the Eye of the Scroul; and ſtill more to diſtinguiſh this Order from the *Compoſite*, there is no Flower between the Volutes.

Of late Years, Sculptors have added an Enrichment to the *Ionic* Capital, which *Scamozzi*, who new modell'd it, had not inſerted; which is the making Feſtoons; that, together with the ſmall Husks of the Volutes, ſpring from the Flower, whoſe Stalk lies upon the firſt Circumvolution of the Scroul: and, it ſeems, that they would, thereby, repreſent the Curls of Hair, hanging down on both Sides of the Face, which *Vitruvius* would have ſignified by the Volutes: for, it may be ſaid, that the Volutes repreſent, rather the Locks of Hair twiſted up, and, that the Feſtoons bear more Reſemblance to the Buckles of Hair in Curl.

'Tis farther remarkable, that there is an Opinion amongſt Architects, that the Volutes of this Temple are more oval, and broader ſideways, than they are commonly made, which is not true; for, although the Capitals of this Building are different, and moſt

Chap. III. of them imperfect, it is certain, that thoſe which are finiſh'd, are far from having the Volute oval, breadthwiſe; having it rather ſo up and down, being twenty-ſix Minutes and a half high, and twenty-three Minutes and a half wide; whereas, in the Theatre of *Marcellus*, where they are but twenty-ſix Minutes and a Quarter high, they are twenty-four wide.

Entablature. The Entablature has the uſual Height of two Diameters of the lower Part of the Column, or ſix little Modules. It is alſo divided as in all the other Orders except the *Doric*, into twenty Parts; of which, the Architrave has ſix, and the Freeze as many, the eight, which remain, being for the Cornice. The Proportions of the three Parts, whereof this Entablature is compos'd, are different in Authors. *Vitruvius* makes the Frecze greater than the Architrave; wherein, *Vignola* and *De Lorme* have imitated him. On the contrary, in the Temple of *Manly Fortune*, and in the Theatre of *Marcellus*, the Freeze is leſs than the Architrave; and this Proportion has been followed by *Palladio*, *Scamozzi*, *Serlio*, *Barbaro*, *Cataneo*, and *Viola*. *Alberti*, whom I follow herein, keeps the Middle, and makes the Freezc and Architrave equal: He, alſo, gives eight Parts to the Cornice, of which, the Architrave and Freeze have each ſix, which are the ſame Proportions I give theſe Parts.

Architrave. To find the Heights of the Members of the Architrave, divide it into five Parts; giving one to the Cymaiſe, compos'd of an Ogee and its Fillet: the Remainder being divided into twelve Parts, the firſt Face of the Architrave has three, the ſecond four, and the third five. The Projectures are determin'd by fifth Parts of the little Module; ſo that a Quarter of one of theſe Fifths, are given to the Projecture of each Face, and an entire Fifth to the Ogee with its Fillet; which makes together, one Fifth and a Half, for the Projecture of the whole Architrave.

These Proportions are not found in all thoſe Works we take our Examples from; the Cymaiſe is leſs in *Vitruvius* than we make it; he hollows it but the ſeventh Part of the Architrave, whereas I make it the fifth, as it is in the Theatre of *Marcellus*; becauſe, in the *Antique*, it is ſometimes much greater, being in the *Coliſeum*, two Ninths, and, in the Temple of *Manly Fortune*, two Fifths. The *Moderns*, alſo, differ ſome from others, *Serlio* and *Bullant* make it little, according to *Vitruvius*, and others make it large, as *Palladio*, *Vignola*, *Alberti* and *Viola*.

The Character is alſo different, in that there are Aſtragals, ſometimes, inſerted between the Faces, as *Palladio* has done. In the Temple of *Manly Fortune*, there is but one, and that is not between the Faces, but in the Midſt of the ſecond Face. *Scamozzi* puts one under the Cymaiſe, as in the *Corinthian* Order. I think the

the Plainneſs that *Vitruvius* gives this Architrave, in cutting off the Aſtragals, ſuits beſt with this Order, which ſhould not have thoſe Ornaments that are peculiar to the more delicate; though *Vitruvius* makes no ſuch Difference between theſe two Orders, which he diſtinguiſhes, from each other, only by their Capitals; the *Corinthian*, according to theſe Heights, borrowing, ſometimes the Entablature of the *Ionic* Order, ſometimes that of the *Doric*: For, if Architects, ſince *Vitruvius*, have added Ornaments to the *Corinthian* Order, they have done it, in my Opinion, with more Reaſon, than thoſe who would give theſe very Ornaments to the *Ionic* Order. The Faces are ſometimes made leaning backwards, and the Soffit of their Projecture not direct, but riſing up before, as in the Temple of *Manly Fortune*; and 'tis pretended this is done, that the Projectures, and Heights of the Members, may appear otherwiſe than they really are. *Vitruvius* would have all the Faces of the Members in Entablaments, incline forward, pretending that this Inclination makes them appear plum. We find, however, in the *Antique*, that the Faces are oftner made leaning backward than forward. But all thoſe Things are conſider'd in a ſeparate Chapter, where I diſcourſe of the Change of Proportions. However, my Opinion is, that all that ſhould appear plum and level, ought to be really made ſo; and, in all the Members, of what Order ſoever it be, I govern myſelf by this Rule.

Freeze. THE Freeze, ſmall and ſwelling, as *Vitruvius* has made it, is not found practiſed in the *Antique*, unleſs it be in the Baths of *Dioclefian*; and moſt of the *Moderns* have ſhewn diſlike to it.

Cornice of the Entablature. THE eight Twentieths of the whole Entablature, which are allowed to all the Cornices, except that of the *Doric* Order, regulate the Height of this, and that of all its Members, which are Ten in Number. The firſt, which is an Ogee, has one of the Twentieths; the ſecond, which is a Dentel, has one and a half; the third is a Fillet, which has one Fourth of a Part; the fourth is an Aſtragal, which has as much; the Fifth is a Quarter-round, which has one Part; the ſixth is the Corona, which has one and a half; under the Corona there is a Drip, whoſe Depth is one Third of a Part; the ſeventh Member is an Ogee, which has half a Part; the eighth is a Fillet, which is a Quarter of one; the ninth is the Cymaiſe, which has one Part and a quarter; the tenth is the Liſt, or Square of the Cymaiſe, which has half a Part.

THE Projectures are govern'd by Fifths of the little Module, of which, twelve are given to that of the whole Cornice: the Ogee has one, taken from the Naked of the Freeze; the Denticle three; the Ovolo, or Quarter-round, with the Aſtragal and Fillet under it, four and a half; the Corona eight and a half; the Ogee, with its Fillet, nine and a half; and the Cymaiſe twelve.

FOR

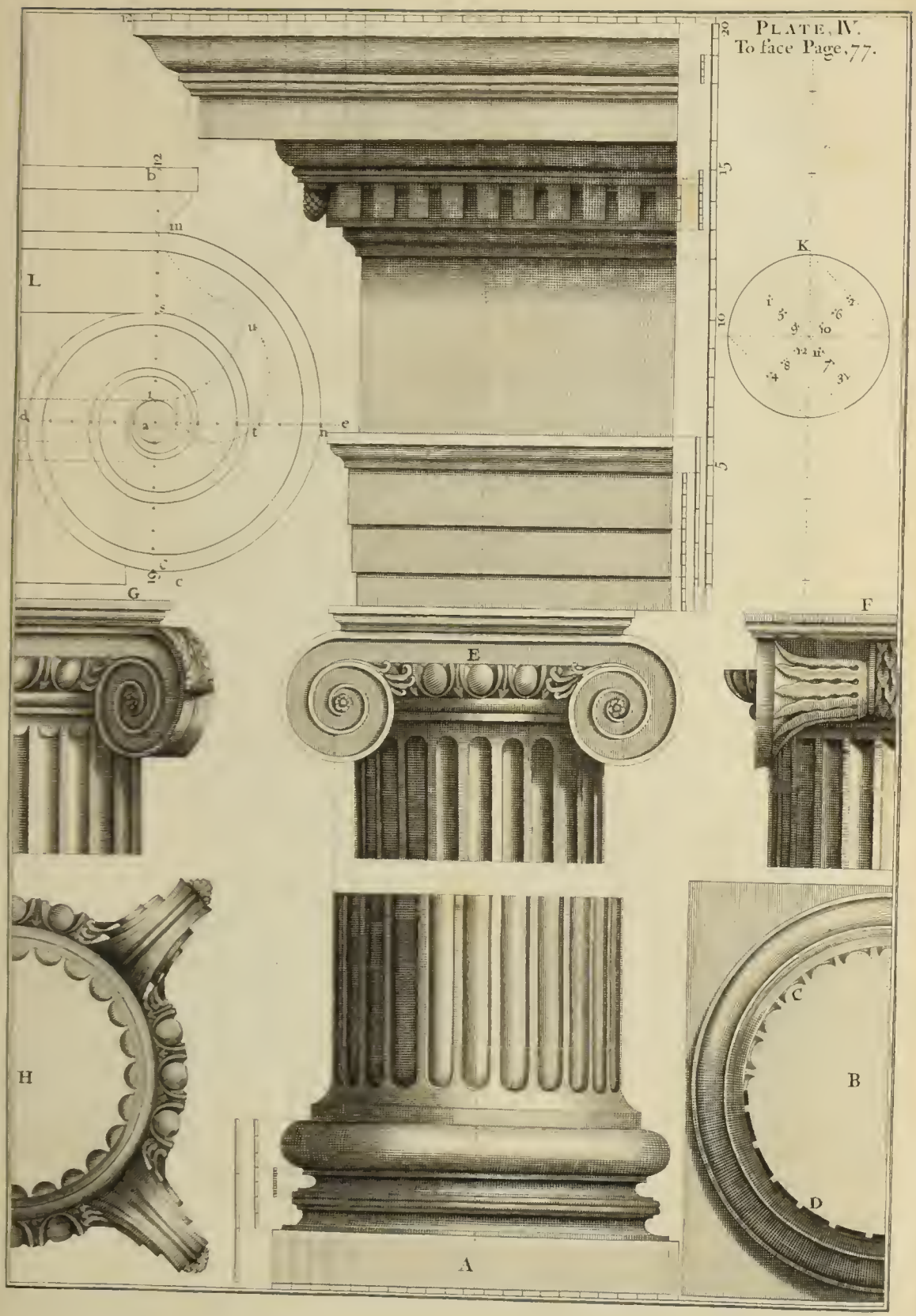
Chap. III. For cutting the Dentel, divide the Height into three Parts, giving two of them to the Denticle, and one to the Space between.

That, wherein theſe Proportions differ from the *Antique*, and the *Moderns*, is, chiefly, in the Cutting of the Dentel; which, *Vitruvius*, and ſome *Moderns*, as *Barbaro*, and *Cataneo*, make very narrow, giving but half the Height of the Dentel for its Breadth, and two Thirds of the Breadth for the Space between; and which, others, as *Vignola* and *Serlio*, make larger. The Proportion, I aſſign it, is the ſame with that in the Theatre of *Marcellus*, the *Goldſmiths* Arch, that of *Septimius*, the Temple of *Jupiter Fulminans*, and in the three Columns of *Campo Vaccino*: for, as *Vitruvius* makes the Dentel very narrow, ſo it is ſometimes in the *Antique* made very large, having almoſt as much Breadth as Height, as it is in the Temple of *Manly Fortune*, at the Market at *Nerva*, and the Arches of *Titus* and *Conſtantine*.

The Character I have here made Choice of, is that of *Vitruvius*, and the *Antique*, which conſiſts in that the *Ionic* Cornice has Denticles, which has been follow'd by moſt of the *Moderns*, as *Serlio*, *Vignola*, *Barbaro*, *Cataneo*, *Bullant*, *De Lorme*, and *Alberti*: Thoſe, who inſert Modillions, as *Palladio*, *Scamozzi*, and *Viola*, borrow their Cornice from the Temple of *Concord*, which is an irregular *Ionic* in all its Parts, but principally in its Cornice; Modillions being the Character of the *Corinthian* and *Compoſite* Cornices, as Mutules are of the *Doric*, and Dentels of the *Ionic*; and I cannot think that Imitation ought to be approv'd, which Architects have made of the Cornice of the Temple of *Concord*, as *Scamozzi* is commended for having taken the Model of his *Ionic* Capital from this *ancient* Structure. Neither have I cut Eggs in the Quarter-round, which is over the Dentel, nor Leaves with Tongues, or any other Carving in the Ogees of the Architrave or Cornice; becauſe I think it renders this Cornice too rich for the Order; which, *Vitruvius* allows no other Ornament but a Dentel. In Cornices, that are not cover'd by a Pediment, *Vitruvius* puts in the great Cymaiſe, directly over each Column, and, in the Spaces, between the Columns, Lions Heads, at equal Diſtances, and would have thoſe, that are over the Columns, cut through, for carrying off the Water that falls on the Cornice and Roof. In the Temple of *Fortuna Virilis*, theſe Heads neither anſwer the Perpendicular of the Columns, nor the Spaces between them, with Regularity.

The

PLATE, IV.
To face Page, 77.



The EXPLANATION of PLATE IV.

A *THE Base which* Vitruvius *gives to all the Orders that have any, and which, the* Moderns *appropriate solely to the* Ionic. *That Piece of the Shaft of a Column, which is set upon it, is fluted after that Manner we call cabled Flutings.*

B C D *The Plan of this Base.* C *The Plan of the cabled Flutings.* D *The Plan of that sort of Fluting, which is on the Columns within the* Pantheon.

E *The Face of the* Ionic *Capital of the* Antients.

F *The Side of the same Capital.*

G *The Side of the* Modern Ionic *Capital, reform'd by* Scamozzi, *and keeping that Form which I think it ought to have, which is to continue its Rind or Bark upon the Vase, without entring into it. You may observe, that the Part of the Column join'd to it, has the Top of its Flutings cut after the Manner of those at the Tuteles at* Bourdeaux.

H *The Plan of the reform'd* Modern *Capital.*

L *The Description of the* Antique Ionic *Volute.*

K *The Eye of the Volute, shewn at large, which, in the Volute* L, *is mark'd* a. *From* a, *to* b, *is the height of the little Module, parted into twelve, of which, the eleven from* i, *to* b, *make the Height of the Capital; and the nineteen taken from* b, *to the bottom, determine how far the Volute must descend;* d, e, *is the horizontal Line, continued through the Center of the Eye.*

To describe the Contour of the Volute, set the fix'd Foot of the Compasses on the first Point, answering that mark'd 1, *in the Eye* K, *and extending the other Foot to* m, *in the Volute* L; *draw outwards the Quarter-circle mark'd* m, n. *From this Place, having set the fix'd Foot on the second Point, answering that mark'd* 2, *in the Eye* K, *describe the second Quarter-circle mark'd* n, o; *and from thence, placing the fix'd Foot on that which answers the Point* 3, *draw the third Quarter-circle from* o *to* d; *from thence, likewise, setting the fix'd Foot on that which answers the Point* 4, *draw the fourth Quarter of a Circle from* d *to* s; *and then, placing the fix'd Foot on that answering the Point* 5, *describe the fifth Quarter-Circle mark'd* s, t; *and so on, from Point to Point, till you have drawn the three Circumvolutions.*

The Line c, *answers to the Naked of the Bottom of the Column. That which is mark'd* m, u, t, *gives the Out-line of the Pomegranate of the Balluster, which* Vitruvius *calls the Belt or Girdle.*

CHAP. IV.

Of the CORINTHIAN *Order.*

VITRUVIUS makes the *Corinthian* and *Ionic* Order, differ only in their Capitals, whoſe Proportion and Character have nothing alike: But we find in Structures, built ſince his time, other Differences than thoſe of their Capitals; for the Shaft of the *Corinthian* Column is ſhorter than that of the *Ionic*: the Baſe is quite different. The Architrave, beſides the three Faces, and the Cymaiſe, has alſo two Aſtragals and an Ogee. The Cornice has an Ovolo, and Modillions, which are not in the *Ionic* Order of *Vitruvius*.

BASE *of the* Pedeſtal. In the firſt Part of this Treatiſe, where are eſtabliſh'd the Proportions in general, there is given to the entire Order, forty-three little Modules; whereof, the Pedeſtal has nine, the Column twenty-eight, and the Entablament ſix. The Proportions were alſo adjuſted, by giving the whole Baſe a Quarter of the Height of the Pedeſtal, and half a Quarter to the Cornice; the Zocolo, or Plinth of the Baſe, having two Thirds of the whole Baſe, the other Third is parted into nine; whence are taken the Heights of the five Members, whereof this Part is compos'd; which are a Torus, an inverted Cymatium, with its Fillet, and an Ogee, with its Fillet under it. The Torus has two Parts and a half of the nine; the Cymatium three and a Half, which Half is for the Fillet; the Ogee two and a Half, and its Fillet half a Part. The Projecture of the

Torus

Torus is that of the whole Baſe; that of the Cymatium is two Fifths and three Quarters of the little Module; and that of the Ogee, with its Fillet, is one Fifth.

The Character of this Baſe, is taken from *Palladio*, who has followed the Example of that of the Arch of *Conſtantine*, in every thing but this, that inſtead of the Ogee, which makes the upper Member of *Palladio*'s Baſe, that has an Aſtragal, with a Cavetto, or ſmall Hollow upon it. In the Altars of the *Pantheon*, 'tis alſo much the ſame, all the Difference being, that the Ogee there has an Aſtragal, which ſupplies the Place of this Fillet.

Cornice *of the* Pedeſtal.

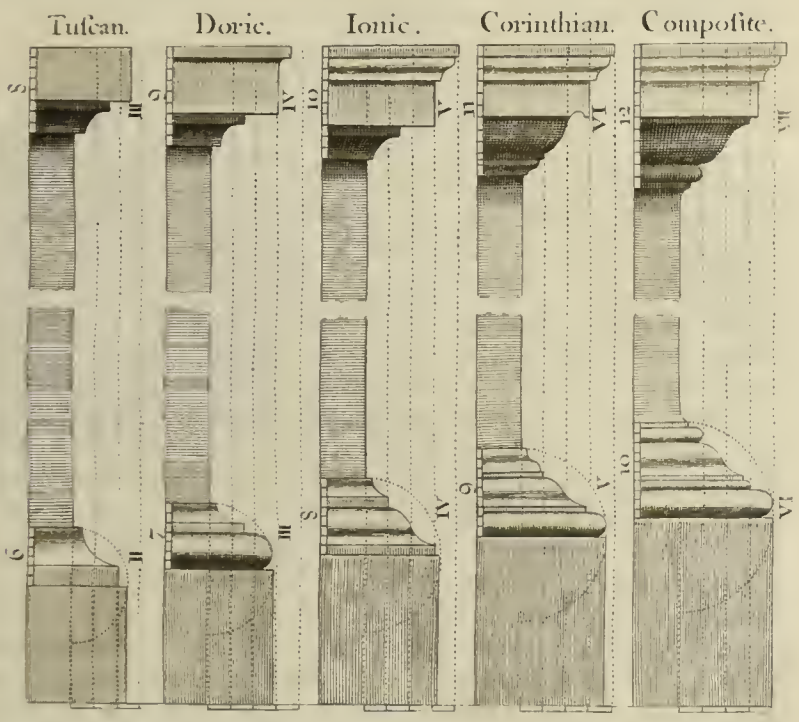
In the Cornice, the ſix Members that compoſe it, are an Ogee, with its Fillet; a Cymatium that riſes under the Corona, which it hollows to make a Drip, a Corona, and an Ogee, with its Fillet, or Square upon it. The whole Cornice is divided into eleven Parts, of which, the lower Ogee has one and a Half, and its Fillet half a one; three are given to the Cymatium, three to the Corona, two to the Ogee that crowns it, and one to its Fillet. The lower Ogee, with its Fillet, has, in Projecture, one fifth Part of the little Module, reckoning from the Naked of the Die; the Cymatium to the Drip, has two fifth Parts, and the Sixth of a Part; the Projecture of the Corona is three Parts; and that of the upper Ogee, with its Fillet, is a Fifth of the little Module, beyond the Corona.

The Character of this Cornice, is alſo taken from *Palladio*, and differs nothing from that of the Altars in the *Pantheon*, but, that inſtead of the upper Ogee, there is a Cymatium in the *Pantheon*. In the Arch of *Conſtantine*, this Cornice is very irregular, not having that Relation, the Cornices of Pedeſtals generally have to their Baſes, which is always to conſiſt of a greater Number of Members than the Baſes; for it is ſo plain there, that inſtead of ſix Members, as I allow it, it has but four; namely, a Fillet, an Aſtragal, and a Cymatium with its Fillet; and its Members are alſo very diſproportionate; the Fillet, which is under the Aſtragal, being extremely ſmall, and the Aſtragal, with the Cymaiſe, exceſſively great. In the Temple of *Veſta* at *Tivoli*, we find the ſame Diſproportion, but 'tis in the Baſe, which conſiſts of no more than a large inverted Ogee, with its Fillet, which do the Office of Baſe, and Zocolo to the Pedeſtal.

BASE *of the* Column.

The *Antient* Architects, who came immediately after *Vitruvius*, invented a Baſe for the *Corinthian* Column, that ſeems to be a Compoſition of the *Attic* and *Ionic* Baſe; for it has two Tores as the *Attic*, and two Aſtragals, and two Scotias, as the *Ionic*. In this Diverſity of Proportions, found in the Examples, which the Works of the *Antients* and *Moderns* give to this Baſe, keeping my accuſtom'd Medium, I take the Heights of all the Members, by Diviſions

Chap. IV. Diviſions into Fourths, as was done in the *Doric* Capital by Thirds; for the fourth Part of the Semi-diameter of the Column, which is the Height of the whole Baſe, is the Height of the Plinth; the fourth of what remains, is the Height of the lower Torus; the fourth Part of what then remains, is the Height of the upper Torus; the fourth Part of the Remainder, is for the two Aſtragals in the Middle, which have each half of this Fourth; the Fourth of what remains between each Torus, and each Aſtragal, is for the greater Fillet of the Scotia, which ought to be next each Torus; the fourth of what then remains, is for the leſſer Fillet, which ſhould be contiguous to the Aſtragals; and what afterwards remains, is for the Scotias.



The Projectures are regulated, as before, by Fifths of the little Module, ſo that the great Torus, as alſo the Plinth, has three Fifths, in Projecture from the Naked of the Column; the Aſtragals, and the greater Fillet of the lower Scotia, have two Fifths; the upper Torus, and the leſſer Fillets of the Scotias have one Fifth, and three Quarters of a Fifth; and the greater Fillet of the upper Scotia, one Fifth and a Half.

In

In the Proportions, and the Character of this Baſe, I here give, there is ſcarce any thing makes it different from the *Antique*, but the Proportions of the Scotias, which I make equal, though they are found almoſt always different in the *Antique*, that above being leſs than the other. But as all the *Moderns* make them equal, I thought I could not do amiſs in following theſe great Maſters.

What is remarkable in the Shaft of the *Corinthian* Column, is its Height, which, as has been ſaid, is leſs than that of the *Ionic*; becauſe its Capital, being much higher, had the Shaft been lengthned proportionably to what is done in the other Orders, the entire Column would have had too great an Augmentation of Height. As for its Flutings, all that relates to them, has been ſpoken to in the precedent Chapter, there being no Difference in the Flutings of theſe two Orders, either as to Figure, or Number, for if ſometimes we find in the *Antique*, that the *Ionic* has fewer Flutings than the *Corinthian*, as in the Temple of *Fortuna Virilis*, where they are but twenty in Number, there are alſo *Corinthian* Columns that have no more, as in the Temple of the *Sibyl* at *Tivoli*. SHAFT *of the* Column.

The *Corinthian* Capital is ſtill more different from the three others, than the *Ionic* is from the *Doric* or *Tuſcan*; for it has neither the Abacus nor Ovolo, which are eſſential Parts common to the *Tuſcan*, *Doric* and *Ionic*. Here is indeed an Abacus, but altogether different from the others, having its four Faces circular and hollow'd inward, where there is a Roſe on each of the four. Inſtead of an Ovolo, and Annulets, here is only the Brim of a Vaſe, and that which is as a Neck, is very much lengthen'd, and enrich'd with a double Row of eight Leaves in each, bending their Heads outwards, from between which, ariſe ſmall Stalks, from whence ſpring the Volutes, which have no Reſemblance with thoſe of the *Ionic* Capital, and which, inſtead of four in the *Ionic*, are ſixteen in Number here, four in each Face. Capital.

For the Height of this Capital, add to the Extent of the whole Diameter, at bottom of the Column, one ſixth Part, which makes three little Modules and a Half. This Height being parted into ſeven, the four loweſt are for the Leaves; to wit, two for the firſt Row of Leaves, and two for the ſecond. The Height of each Leaf being parted into three, the upper Part is for the Deſcent, which the Head of the Leaf makes on the Turn. The three Parts at top, which remain of the ſeven, are for the Stems, Volutes, and Abacus. This is divided into ſeven Parts, of which, the two upper ones are given to the Abacus, the three next to the Volute, and the two loweſt to the Stem or Stalks; ſo that one of theſe two Parts is for the bowing down of the Leaves of the Stems, of which, there are two that meet and join at the Place where the Volutes

Chap. IV. come together and join, which is at the four Corners, and at the four Middles of the Capital. Under the Horns of the Abacus, where the Volutes meet, there is a ſmall Leaf of the Acanthus, which turns back towards the Corner of the Abacus, to fill the Space which is between the Volute that deſcends, and the Horn of the Abacus that remains ſtrait.

The Leaves, before mention'd, are divided, each making three Ranges of leſſer Leaves, of which they are compos'd, and which they have on each Side, beſides the middle Leaf, which turns outwards; the leſſer Leaves are again parted generally into five, and then are call'd Olive-leaves; ſometimes into three, and then take the Name of Laurel-leaves. The middle Leaf, which bows its Head, is parted into eleven, which are convex outward, whereas, the others are ſomething hollow. Above the Leaves, in the middle, there is a Flower, which ſhoots out between the Stems and the Volutes, like the Stalk of the Roſe, which is in the Midſt of the Abacus.

To make the Plan of this Capital, draw a Square equal to the Plinth of the Baſe, and make an equilateral Triangle, of which, one of the Sides of the Square is the Baſe: the Angle, oppoſite to this Baſe, is the Center, on which to deſcribe the Sweep of the Abacus: For the cutting off the Horns of the Abacus, divide one of the Sides of the Square into ten Parts, one of theſe is the Breadth of the Horn on the Cant, which muſt be made at right Angles to the Diagonal of the Square.

The Proportions of this Capital are different in the Works of the *Antique*, and in the Writings of Architects. In the *Antique*, the whole Capital is ſometimes a ſeventh Part lower, being no more than the Diameter of the Column at bottom, as in the Temple of the *Sibyl* at *Tivoli*, which agrees with *Vitruvius*: Sometimes it is higher, as in the Temple of *Veſta* at *Rome*, and in the Frontiſpiece of *Nero*, where it has near two ſixth Parts more than the Diameter of the Column. It has ſometimes the ſame Height I give it, as in the upper Order of the *Coliſeum*, and in the Temple of *Jupiter Fulminans*: Sometimes it is only a ſmall matter lower, as in the *Pantheon*, in the three Columns of *Campo Vaccino*, in the Temples of *Fauſtina*, and *Mars* the *Revenger*; in the Porch of *Septimius*, and in the Arch of *Conſtantine*: Sometimes it is a little higher, as in the Baths of *Diocletian*. The *Moderns* are alſo divided, for ſome give it the ſame Height I do, as *Palladio*, *Scamozzi*, *Vignola*, *Viola*, and *De Lorme*; others, as *Bullant*, *Alberti*, *Cataneo*, *Barbaro*, and *Serlio*, make it low, according to *Vitruvius*. The Abacus, in *Vitruvius*, as alſo, in the three Columns, and the Temple of *Fauſtina*, is the ſeventh Part of the whole Capital; it is ſometimes leſs, being but an eighth Part, as in the *Pantheon*, in the Baſilic of *Antonine*, and the

the Market of *Nerva*; which laſt, is within one Third of a Minute of what I give it: Sometimes it is greater, having even a Fifth or Sixth, as in the Temple of *Veſta* at *Rome*, and that of the Sibyl at *Tivoli*.

Nor is there leſs Difference in the Character, *Vitruvius* cuts the Leaves in Manner of the Acanthus, as they are in the Temple of the *Sibyl* at *Tivoli*: In the *Antique*, they are for the moſt part made as Olive-leaves raſled into five: ſome divide them only into four, as in the Temple of *Mars* the *Revenger*; others into three, as in the Temple of *Veſta* at *Rome*. The *Moderns*, who make them like the Acanthus, are *Serlio*, *Barbaro*, and *Cataneo*. Theſe Leaves, in the *Antique*, are ſometimes unequal in their Height, the undermoſt being talleſt, as in the Portico, and within the *Pantheon*, in the Temple of *Veſta* at *Rome*, that of the *Sibyl* at *Tivoli*, and that of *Fauſtina*, in the Market of *Nerva*, in the Arch of *Conſtantine*, in the *Coliſeum*, and the Baths of *Diocletian*: Sometimes the ſecond Range are higheſt, as in the Baſilic of *Antoninus*, and ſometimes, alſo, they are equal, as I make them, as in the three Columns of *Campo Vaccino*, in the Temple of *Jupiter Fulminans*, and *Mars Ultor*, in the Frontiſpiece of *Nero*, and in the Porch of *Septimius*. The Ribs, in the Middle of the Leaves, are very often raſled on both Sides, as in the *Pantheon*, in the Temples of *Jupiter Fulminans*, and *Mars* the *Revenger*, in the Frontiſpiece of *Nero*, in the Baſilic of *Antoninus*, the Porch of *Septimius*, and the Baths of *Diocletian*: Sometimes they are not cut at all, as in the Temple of *Veſta* at *Rome*, of the *Sibyl* at *Tivoli*, in the three Columns of *Campo Vaccino*, in the Market of *Nerva*, and in the Arch of *Conſtantine*. The firſt Row of Leaves, commonly belly out, towards the Bottom, but more in ſome Buildings than others; this Swelling is very remarkable in the Temple of *Veſta* at *Rome*. In the Capital of a Pilaſter, which remains of the Frontiſpiece of *Nero*, and another in the Baths of *Diocletian*, there are more Leaves than are uſually made in Pilaſters; for, whereas on each Face of the Pilaſter, there are commonly but two Leaves in the firſt Row, and three in the ſecond, theſe have three in the firſt Row, and four in the ſecond; and, moreover, in that of the Frontiſpiece of *Nero*, there is another Leaf riſes between the Stalks and the middle Volutes, inſtead of the little Flower. This Leaf is likewiſe in the Capital of the Temple of *Veſta* at *Rome*.

The Abacus is ſharp at the Corners, in the Temple of *Veſta* at *Rome*, which ſeems agreeable to *Vitruvius*, who mentions nothing of cutting off the Corners of the *Corinthian* Abacus, and ſpeaks of them, as no more than four in Number, which would be eight, were the Corners cut off. The Roſe, which is in the Middle of

the

Chap. IV. the Abacus, is alſo ſomewhat different; *Vitruvius* makes it the Thickneſs of the Abacus: Some have ſince made it drop as low as the under Part of the Brim of the Vaſe, or Tambour, and it is yet much larger in the Temple of the *Sibyl* at *Tivoli*; for there it almoſt covers the middle Volutes; it differs, alſo, in its Form, being, generally, a Roſe compos'd of ſix Leaves, each rafled into five Olive-leaves, from the Middle of which, comes out a Sort of Fiſhes Tail, wav'd and turning upwards: Thus it is in the *Pantheon*, in the Temple of *Fauſtina*, of *Jupiter Fulminans*, and of *Mars* the *Revenger*, in the Market of *Nerva*, and in the Baths of *Diocletian*. In the Temple of *Veſta*, it has the Likeneſs of an Ear of Corn, inſtead of the Fiſhes Tail. In the *Sibyl*'s Temple at *Tivoli*, the Roſe, which is very large, and compos'd of Leaves not rafled, has, alſo, in its Middle, the Form of an Ear of Corn, twiſted like a Screw. In the Frontiſpiece of *Nero*, there is a ſmall Flower. In the Baſilic of *Antonine*, and in the Arch of *Conſtantine*, the Bottom of the Roſe is turned upwards, and has an Ear of Corn in the Middle. In the three Columns of *Campo Vaccino*, the Roſe, which is cut with Leaves of Acanthus, hangs very much downwards, and, in the Midſt, has a Pomegranate, turning alſo downwards. In the Porch of *Septimius*, inſtead of the Roſe, there is an Eagle holding a Thunderbolt. This Roſe, or whatever is inſerted in the Midſt of the Abacus, inſtead thereof, has different Projectures: It extends, ſometimes, beyond the Line which goes from one Horn of the Abacus to the other; as in the three Columns of *Campo Vaccino*, in the Altars of the *Pantheon*, in the Temple of the *Sibyl*, and the Baſilic of *Antoninus*: Sometimes it recedes a ſmall Matter within the Line, as in the Temples of *Jupiter Fulminans*, that of *Mars* the *Revenger*, and in the Baths of *Diocletian*; and ſometimes its Projecture is the ſame with the Line, as in the *Pantheon*, and in the Temple of *Fauſtina*.

The Volutes are ſometimes join'd one to the other, as in the Portico, and Inſide of the *Pantheon*, in the Temples of *Jupiter Fulminans*, and *Mars Ultor*, *&c.* Sometimes they are wholly ſeparate, as in the Temple of *Veſta*, in the Frontiſpiece of *Nero*, and in the Baſilic of *Antonine*, *&c.* The Helices of the Volutes are ordinarily of two Manners in the *Antique*: Some keep twiſting even to their End, in the ſame Courſe, like the Shell of a Snail; others, towards the Center, turn back again, and form, as it were, a ſmall S. Thoſe of the firſt Sort are within the *Pantheon*, in the Temples of *Veſta* and *Tivoli*, and in the Baths of *Diocletian*; the other Manner, more us'd in the *Antique*, is in the Porch of the *Pantheon*, and that of *Septimius*, in the three Columns of *Campo Vaccino*, in the Temples of *Jupiter Fulminans*, *Mars Ultor*, and that of *Fauſtina*, in the Frontiſpiece of *Nero*, the Baſilic of *Antoninus*, the Market of *Nerva*, and

and in the Arch of *Conſtantine*; which, nevertheleſs, is not practis'd by the *Moderns*. But the Volutes of the three Columns in *Campo Vaccino*, are altogether particular; for thoſe in the Middle of each Face, inſtead of joining at their Edge, as uſual, are ſo interwoven, that that which above paſſes over the other, is continued, afterwards, under it again.

THE Entablature, which is of ſix little Modules, is divided, as commonly, into twenty Parts, whereof, ſix are given to the Architrave, as many to the Freeze, and eight to the Cornice. Theſe Proportions are different, as well in the *Antique*, as in *Authors*; for the Freeze is greater than the Architrave, in the Temple of *Jupiter Fulminans*, and that of the *Sibyl*, as alſo in *Serlio* and *Bullant*. It is leſs than the Architrave, in the Porch of the *Pantheon*, in the Temple of *Fauſtina*, in the Baſilic of *Antonine*, in the Porch of *Septimius*, and the Arch of *Conſtantine*, in *Palladio*, *Scamozzi*, *Barbaro*, *Cataneo*, and *Viola*: but, within the *Pantheon*, the Architrave and Freeze are equal. Entablature.

To find the Heights of the ſeveral Parts of the Architrave, divide each of its ſix Parts into three, which makes eighteen in all; three of theſe are given to the Ogee above, whoſe Fillet, or Square, has one and a Quarter of them; the large Aſtragal, under that Ogee, has one Part; five are given to the upper Face; one and a Half to the ſmall Ogee under it; four to the middle Face; one Half to the little Aſtragal under it, and three to the lower Face. For the Projectures, that of the whole Architrave has two Fifths of the little Module; the upper Face has one of theſe Fifths; the middle Face half a one, and the lower Face anſwers the Naked of the upper part of the Column. Architrave.

THESE are mean Proportions, between the different Exceſſes of the *Antients* and *Moderns*: for the great Ogee, which I make one Sixth of the whole Architrave, has more than a Fifth, in the Portico and Inſide of the *Pantheon*; in the Temples of *Fauſtina* and *Jupiter Fulminans*, in the Market of *Nerva*, in the Porch of *Septimius*, in the Arch of *Conſtantine*, in the *Coliſeum*, and the Baths of *Diocletian*; but it has no more than a ſeventh Part in the three Columns of *Campo Vaccino*, and in the Temple of *Mars* the *Revenger*. The *Moderns* alſo differ as much, *Palladio*, *Vignola*, *Alberti* and *De Lorme*, giving it more than a Fifth, and *Serlio*, *Barbaro*, *Cataneo*, and *Bullant* allowing it but a Seventh.

THE Differences of the Character, are likewiſe very various, there being *Corinthian* Architraves, which inſtead of the Ogee above, have a Hollow, and a Quarter-round under it, as in the Temple of Peace, the Frontiſpiece of *Nero*, and the Baſilic of *Antoninus*: Sometimes, inſtead of the Quarter-round, there is an Ogee under

Chap.IV. the Hollow, as in the Temple of the Sibyl, and in *Scamozzi*. There are alſo Architraves that have nothing under the Ogee, nor between the Faces, as in the *Coliſeum*, and in the Arch of *Conſtantine*; Others, where there are only Aſtragals, and no little Ogee, as in the Temple of *Mars* the *Revenger*; and there are ſome that have but two Faces, as in the Frontiſpiece of *Nero*, and in the Baſilic of *Antoninus*: Others, which have the middle Face quite fill'd with Ornaments, as in the three Columns of *Campo Vaccino*.

Freeze. What is remarkable in the Freeze, is that there are ſome which do not riſe ſquare above the Architrave, but are join'd to it by a little Sweep. This we find practic'd in the Baths of *Diocletian*, and the Temple of *Jupiter Fulminans*. *Palladio* and *Scamozzi* affect this Way, although 'tis but rare in the *Antique*: and it may be ſaid, there is ſome Inconvenience in the Execution of it, by reaſon that the Joint, which falls between the Freeze and the Architrave, when theſe Parts meet ſquare, muſt be made in the Midſt of the Freeze, when they are join'd by this Sweep, which produces an ill Effect.

Cornice *of the* Entable-ment. To find the Height of the Members, whereof the Cornice is compos'd, the whole Cornice is divided into ten Parts. The Members are thirteen in Number. One of theſe ten Parts is given to an Ogee, which is the firſt Member; the fourth of a Part to its Fillet, which is the ſecond; the third, which is the Dentel, has a Part and a half; the Fillet, and the Aſtragal which are over it, which are counted the fourth and fifth Members, are each one Quarter of a Part; the ſixth, which is an Echinos, or Quarter-round, has one Part; the ſeventh, which is a Modillion, has two Parts; the eighth, which is an Ogee that crowns the Modillion, has half a Part; the ninth, which is the Corona or Drip, has one Part; the tenth, which is a ſmall Ogee that crowns the Drip, has half a Part; the eleventh, which is a Fillet, has a quarter of a Part; the twelfth, which is the great Cymaiſe, has one Part and a quarter; and the thirteenth, which is a Fillet, has half a Part.

The Projectures are determin'd by Fifths of the little Module, of which, the great Ogee at Bottom, has one, taken from the Naked of the Freeze; the Dentel two; the Aſtragal that crowns the Dentel, two and a half; the Quarter-round three and a quarter; the Back-part, which ſuſtains the Modillion, three and a half; the Corona nine; the ſmall Ogee, with its Fillet, ten, and the great Cymaiſe twelve. As the Dimenſions of all the Parts of the *Corinthian* Cornice, are ſo very different in ſeveral Works, that we find no two alike; I have taken the Proportions I aſſign it, from the Cornices of the *Pantheon*, the moſt approv'd *Corinthian* Work of all *Antiquity*: I have alſo followed the ſame Character throughout, except in the ſmall Ogee, I inſert between the Corona and great Cymaiſe,

maiſe, which we find in all the other Remains of the *Antique*, tho' in the *Pantheon*, there be only a Fillet.

THERE is a great Diverſity in the Character of this Cornice, as well as in the Proportions; for we find ſome Cornices that have no Corona, as in the Temple of *Peace*, the *Coliſeum*, and the Arch of *Lions* at *Verona*, where the Modillions are plac'd immediately under the great Cymaiſe; others have the Corona of an exceſſive Bigneſs, as in the Frontiſpiece of *Nero*. There are ſome that have two Quarter-rounds, one under the Dentel, and another over it, as in the Temple of *Peace*. Some that have the Quarter-round under the Dentel, and the large Ogee over the Dentel, as in the three Columns of *Campo Vaccino*; and ſome where the Dentel is not cut, as in the *Pantheon*, the Temple of *Fauſtina*, and that of the *Sibyl*. *Vitruvius* ſays that Dentels ought never to be put with Modillions: but as the Member, in which the Dentels are cut, is found in moſt *Corinthian* Cornices of the *Antique*, it ſeems reaſonable to reſtrain this Precept of *Vitruvius*, to the cutting of the Dentel, which is, indeed, omitted in the moſt approv'd Works; and, in my Opinion, with great Judgment; as well becauſe this cutting the Dentel is an Ornament peculiar to the *Ionic* Order, as becauſe the two Members, between which it lies, which are a Quarter-round and a great Ogee, being uſually carv'd, this Clutter of Ornaments cauſes a Confuſion very diſagreeable to the Eye. There are *Corinthian* Cornices without Modillions, as in the Temple of the *Sibyl*, and that of *Fauſtina*, and in the Porch of *Septimius*. There are ſome, whoſe Modillions are ſquare, and with ſeveral Faces, as in the Frontiſpiece of *Nero*, which are the Modillions the *Moderns* give to the *Compoſite* Order; in others, the Modillions have no Scroul, but are quite ſquare before, as in the Temple of *Peace*: Some, inſtead of the Leaf that covers the under Part of the Modillion, have other Sorts of Ornaments, as the *Corinthian* Cornice, which makes the Impoſt of *Conſtantine*'s Arch, where there are Eagles: moſt commonly the Leaf which covers the Scroul is cut into Olive-leaves; but ſometimes into Leaves of Acanthus, as in the three Columns, and the Baths of *Diocletian*. Generally, likewiſe, the Modillions are plac'd without any Reſpect to the Columns, and we ſeldom find them, as in the three Columns of *Campo Vaccino*, and in *Conſtantine*'s Arch, ſet at ſuch Diſtances, that one lies directly over the Middle of each Column. In the Market of *Nerva*, where the Entablature is broken over each Column, as it is in *Conſtantine*'s Arch, inſtead of three Modillions, as are commonly over every Column, and of which one muſt neceſſarily be over the Middle of the Column, there are four, ſo that there can't be one in the Middle.

THE

Chap. IV. The laſt Remark that remains to be made, concerning Modillions, is how they are to be plac'd in Pediments. The ordinary Practice of the *Antique*, is to make them perpendicular to the Horizon, there being but few Inſtances where they are ſquare to the Declivity of the Pediment, as *Serlio* has repreſented them in the Arch of *Verona*: and 'tis certain this ſo univerſal a Practice ought to be taken for a Rule, though Reaſon requires the contrary, according to the Preſcripts of *Vitruvius*, who would have the Imitation of the Works of Carpentry, govern whatever relates to the Modillions and Dentels of Cornices; becauſe they repreſent the Ends of thoſe Pieces that compoſe the Carpentry of the Roof. For as the Modillions, which, at the Eaves, repreſent the Ends of Rafters, do, in the Gable Ends, where Pediments are, repreſent the Ends of Purlins, it is but reaſonable, that the Poſition of the Modillion, in the Pediment, be ſuch as the Situation of the Purlin, which being plac'd on the Pediment, with a Tendency perpendicular to the Declivity of it, requires that the ſame Poſition be alſo given to the Modillion. *Vitruvius* has determin'd nothing upon this Subject, by reaſon he ſays the *Greeks* put no Modillions in Pediments; but made the Cornices altogether plain, as they are in the Temple of *Chiſi*; and the Reaſon he alledges, is, that it could not agree with the Imitation of the Works of Carpentry: it not being reaſonable, ſays he, to make the Repreſentation of the Ends of Rafters in a Place where there is no ſuch thing; namely, in the Gable End. But ſuppoſing Modillions to be made in a Pediment, as they cannot repreſent any thing but the Ends of Purlins, they ought to have no other Poſition, or Tendency, than the Purlins have: For theſe Reaſons, Some of the *Moderns* place the Modillions and Dentels in Pediments, contrary to the common Uſage of the *Antients*. The late Monſ. *Manſard* has done it with great Approbation, in the Façade of Saint *Mary*'s Church, in the Street of Saint *Anthony*.

The Lions Heads, which *Vitruvius* puts in the great Cymaiſe, are ſcarce found in any of the *Antique* Works: in the three Columns of *Campo Vaccino*, inſtead of Lions Heads, there are Heads of *Apollo*, with Rays, which are plac'd in the Midſt of a Roſe compos'd of ſix Leaves of Acanthus.

In the Soffite of the Cornice, between the Modillions, there are ſquare Pannels that have Roſes in them: the Squares of theſe Pannels are moſt commonly oblong, and ſeldom perfectly ſquare, as they are in the Temple of *Jupiter Fulminans*, and in the Baths of *Diocletian*; for they are oblong in the Porch of the *Pantheon*, in the three Columns, and in the Arch of *Conſtantine*. Sometimes there are Roſes without Pannels, as in the Temple of *Peace*, and in the *Coliſeum*.

Coliſeum. Moſt commonly the Roſes are different, and ſeldom alike, as they are in the Baths of *Diocletian.* The Volute of the Modillions ſometimes extends it ſelf beyond the Ogee that caps it, as in the Baths of *Diocletian*; ſometimes the Volute leaves the Ogee entirely beyond it, as in the Porch of the *Pantheon*, the Market of *Nerva*, and in the Arch of *Conſtantine*; ſometimes it advances halfway the Ogee, as within the *Pantheon*, in the three Columns, and in the Temple of *Jupiter Fulminans.* The Leaf, which covers the Modillion, extends, ſometimes, as far as the Volute, as in the Baths of *Diocletian*; ſometimes leaves the Volute entirely beyond it, as in the three Columns of *Campo Vaccino*; and ſometimes advances to the Middle of the Volute, as in the Market of *Nerva*, the Temple of *Jupiter Fulminans*, and the Arch of *Conſtantine.*

But among the *Moderns*, we find a Cornice of a Character altogether ſingular, which is that of *Scamozzi*, where there is no Dentel, and where the Modillions are ſo ſmall, and the Projecture of the Corona ſo great, that it extends beyond the Modillion more than half the Length of the Modillion, making a very large Throat, as in the *Compoſite* Order. It ſeems probable this Projecture beyond the Modillion, was copied from that of *Diocletian*'s Baths, where it is, however, much leſs. In this Manner of Modillions, there is this Conveniency, that being ſmall and cloſer together than they uſually are, the Columns may be brought ſo near each other, that the Horns of the Abacus of their Capitals may touch, and yet the Modillions ſtill keep their Place over the Middle of the Columns; which cannot be done in the ordinary Methods, where a conſiderable Interval, between the Extremities of the Abacus of the Capitals, muſt of neceſſity be left: for this Interval is about forty-five Minutes in *Vignola*, ſixteen in *Palladio*, and twelve in our Manner. And I am of Opinion that Manner is beſt where the Columns may be brought neareſt together, by reaſon of the Occaſion there is for ſo doing, when Columns are coupled in Porticos, where they cannot be ſet too cloſe. But as the Character of this Cornice is too remote from that which is generally in uſe, not admitting of a Dentel, which is a Part that Cuſtom has render'd as it were eſſential to the *Corinthian* Cornice, I think it cannot well be employ'd, without taking too great a Liberty.

The EXPLANATION of PLATE V.

A *THE Baſe invented by the* Antient *Architects, that came after* Vitruvius, *for the* Corinthian *and* Compoſite *Orders, in the Members of which, the Heights are determin'd by Diviſions from four to four, and the Projectures by the Diviſion of the little Module into five.*

B *The* Corinthian *Capital different from that of* Vitruvius, *as well in its Proportion, which makes it higher, as in its Character, having Olive-leaves inſtead of thoſe of Acanthus, which* Vitruvius *gives it.*

C *The Plan of the Capital.*

D *The Volute, or Helix of the Capital, which turns in the Form of an* S *towards the Center.*

E *A Laurel-leaf, ſuch as are in the Capital of the Temple of* Veſta *at* Rome.

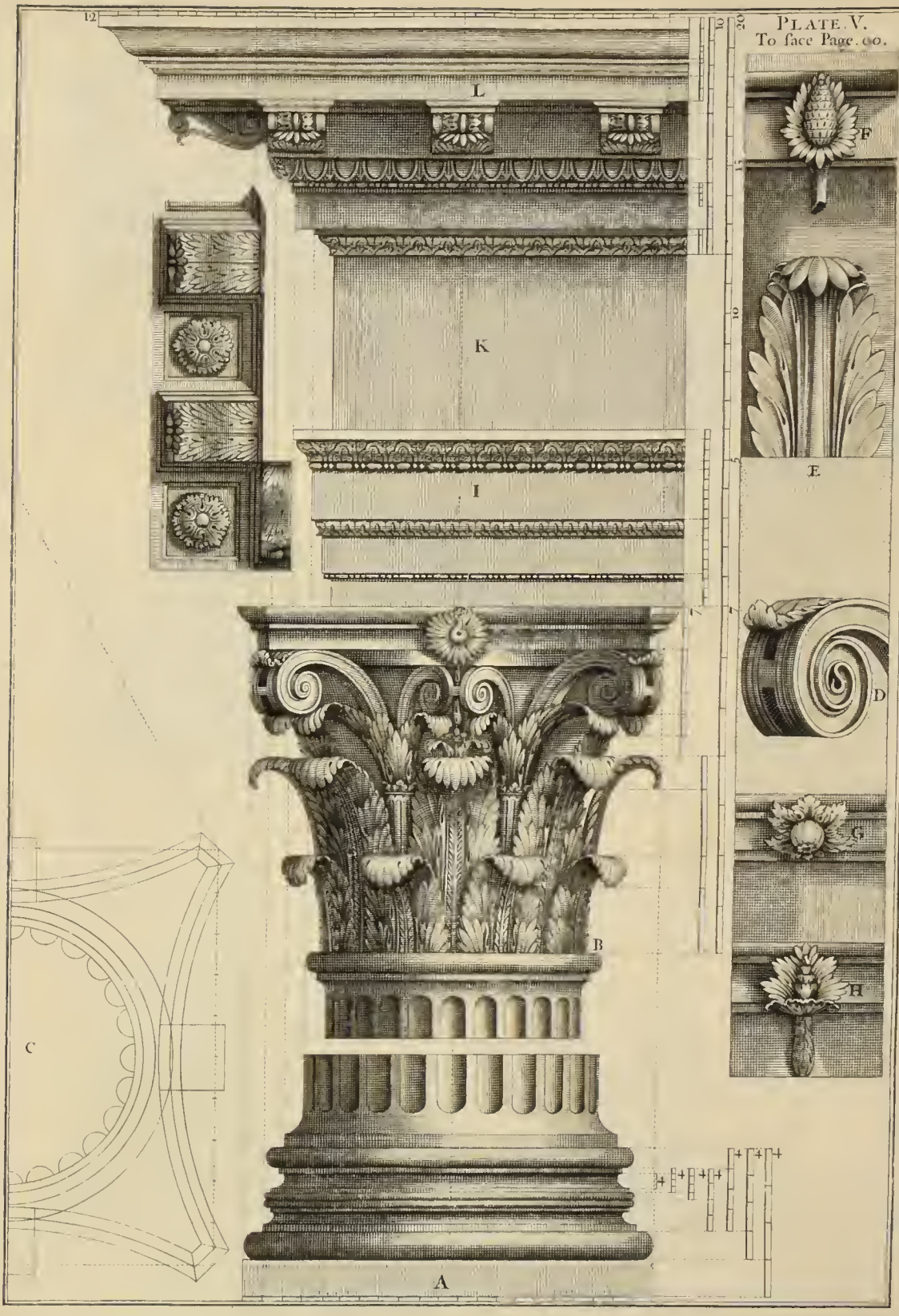
F *The Flower of the Abacus of the Capital, in the ſame Temple of* Veſta.

G *The Roſe of the Abacus of the Capital, on the three Columns in the* Campo Vaccino.

H *The Flower of the Abacus of the Capital in the Baſilic of* Antoninus.

I K L *The Entablature; where may be obſerved, the Reſpect that the Modillions, which are over the Upright of the Column, have with the Projectures of the Baſe, and with the Naked, as well of the upper Part, as of the lower Part of the Column.*

PLATE V.
To face Page. 00.



CHAP. V.

Of the COMPOSITE *Order.*

THE Order vulgarly call'd *Compoſite*, is, by ſome, nam'd the *Italic*, becauſe the *Romans* were the Inventers of it, and for that, the Name of *Compoſite*, or *Compounded*, denotes nothing that is peculiar to it; the *Corinthian* itſelf, according to *Vitruvius*, being *compos'd* of the *Doric* and *Ionic*: And it may even be ſaid that the *Corinthian* Order, as it is found in the *Antique*, is as different from the *Corinthian* of *Vitruvius*, as the *Compoſite* is from the *Antique Corinthian*, which has, in the Cornice of its Entablature, Modillions, and Ovolo; Aſtragals in its Architrave; Olive-leaves in its Capital, and two Tores in its Baſe; which are all Parts very conſiderable, and not found in the *Corinthian* deſcrib'd by *Vitruvius*, which is what was firſt invented by *Callimachus*, and ought to be eſteem'd the true *Corinthian*.

SERLIO is the firſt who has added to the four Orders deſcrib'd by *Vitruvius*, a fifth, which he forms from the Remains of this Order. in the Temple of *Bacchus*; in the Arches of *Titus*, *Septimius*, and the *Goldſmiths*, and in the Baths of *Diocletian*, but he has taken nothing but the Capital from the *Antique*: *Palladio*, and *Scamozzi*, give it a particular Entablature, which they copy from *Nero's* Frontiſpiece, probably, becauſe this Structure, which paſſes for *Corinthian*, on account of its Capital, having a particular Character in its Entablature, not found in other *Corinthian* Works, theſe Authors thought

Chap. V. thought that this Part, which is very conſiderable, join'd with the Capital, would ſufficiently diſtinguiſh this Order from all the others. But the Truth is, this Entablature is ſomewhat maſſy, for an Order that ought to be more delicate than the *Corinthian*, unleſs we will ſay that this Groſneſs has reſpect to that of the Capital, which is really leſs delicate than the *Corinthian*: 'tis not therefore without Reaſon, that *Scamozzi* places the *Compoſite* under the *Corinthian*, as it is in the Arch of *Lions* at *Verona*. This *Compoſite* Cornice is very fit for Entablatures of Buildings, that have neither Columns nor Pilaſters, as there was formerly one on the outſide of the *Louvre*.

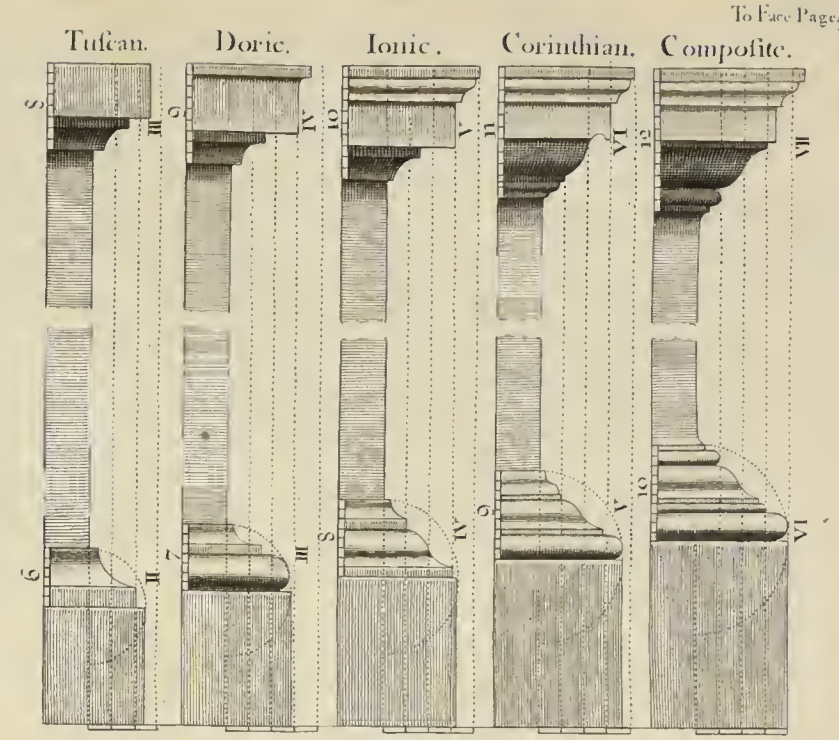
The *Modern* Architects have given this Order its Proportions, which *Vitruvius* had not done, having only deſign'd its Character, when he ſays its Capital is compos'd of ſeveral Parts taken from the *Doric*, *Ionic*, and *Corinthian*: and as he makes no Alteration in the Proportions, either of the Capital, or of the reſt of the Column, he does not allow that this Compoſition makes an Order different from the others. But *Serlio*, and moſt of the *Moderns*, give another Proportion to the *Compoſite* Column, and make it higher than the *Corinthian*.

It has been ſaid, that according to the Augmentation of Heights given to the Orders, in proportion as they become more delicate, the whole *Compoſite* Order has forty-ſix little Modules, of which, the Pedeſtal has ten; the Column, with its Baſe and Capital thirty, and the Entablature ſix.

BASE *of the* Pedeſtal. The Baſe of the Pedeſtal, with its Plinth or Zocolo, has, as in all the other Orders, the fourth Part of the entire Pedeſtal, and without the Zocolo, the third of the whole Baſe. This Baſe conſiſts of ſix Members beſides the Plinth, as the *Corinthian* does of five: theſe are a Torus, a ſmall Aſtragal, an inverted Cyma with its Fillet, a large Aſtragal and a Fillet, making a Sweep to the Naked of the Die. For the Heights of theſe Members, divide this Part of the Baſe, without the Zocolo, into ten Parts, giving three to the Torus, one to the ſmall Aſtragal, half a Part to the Fillet of the Cyma, three and a half to the Cyma, one and a half to the large Aſtragal, and half a Part to the Fillet, whence ſprings the Sweep. The Projectures being taken, as formerly, by the fifth Part of the little Module, one is for the large Aſtragal, two and two Thirds for the Fillet of the Cyma, the Projectures of the Torus being equal to that of the whole Baſe, which is the ſame as its Height.

The Proportions and the Character of this Baſe are different in the *Antique*, as well as in *Modern* Authors. In the Arch of *Titus*, it is compos'd of ten Members, among which there is a Scotia; in that of *Septimius* it has but four Members, and in the *Goldſmiths* Arch, it has five. *Scamozzi* gives his *Corinthian* Order the Baſe which

To Face Page 92.



which is in the *Compoſite* of the Arch of *Titus*: that which I give the *Compoſite* Order, and which has ſix Members, is a Mean between that of the Arch of *Titus*, and that of the Arch of *Septimius*; of which, the one is clutter'd with too much Ornament, and the other is too plain for an Order compos'd of all the others.

Cornice of the Pedeſtal.

The Cornice of the Pedeſtal, which is as the others, one eighth Part of the whole Pedeſtal, is compos'd of ſeven Members, which are, a Fillet with a Sweep over the Die, a large Aſtragal, a Cyma with its Fillet, a Corona or Drip, and an Ogee with its Square or Fillet. The whole Height of this Cornice, being divided into twelve Parts, the Fillet has half a Part, the Aſtragal one and a half, the Cyma three and a half, its Fillet half a Part, the Corona three Parts, the Ogee two, and its Fillet one. The lower Fillet, with the Aſtragal above it, have, in Projecture, one Fifth of the little Module, the Cyma, with its Fillet, has three Fifths, the Corona has three and a Third, and the Ogee, with its Square, has four and a half.

of the Pedeſtal.

What was ſaid of the Character, and Proportion of the Parts of the Baſe, may alſo be ſaid of thoſe of this Cornice, the number of thoſe Members which compoſe it, being exceſſive, in the Arch of *Titus*, and too few in that of *Septimius*.

BASE *of the* Column. The Baſe of the Column is like that of the *Corinthian* Order; thus it is in the Arch of *Titus*: Sometimes, the *Attic* Baſe is made uſe of, as in the Temple of *Bacchus*, in the Arch of *Septimius*, in that of *Verona*, and in the Baths of *Diocletian*. *Vignola* makes a Baſe particular to his *Compoſite*, taking it from a Baſe which formerly belong'd to a *Corinthian* Order of *Diocletian*'s Baths, and which differs nothing from the *Corinthian* Baſe, but in that it has only one Aſtragal between the two Scotias, and that the other Aſtragal, which this Place is depriv'd of, is put between the great Torus and the firſt Scotia. But beſides that this Baſe is not in uſe, the Aſtragal, which is the only Member it has, between two Fillets, being but weak, and ill ſuſtain'd by the Scotias, renders this Part of the Baſe too thin and ſharp. It ſeems as if the Character of this Baſe was taken from the Baſes of the Temple of *Concord*, which, inſtead of the two Aſtragals, and the two Fillets, that are between the Scotias, have only one Fillet, which is ſtill leſs tolerable than the ſingle Aſtragal of *Vignola*'s Baſe, which, at leaſt, is acccompanied, and ſuſtain'd by two Fillets.

Shaft *of the* Column. The Shaft of the Column, differs in nothing from the *Corinthian*, but that its Height is increas'd by two little Modules.

The Capital. The Capital makes the principal Character of this Order, the Baſe being often the ſame as the *Corinthian*, as has been ſaid, and the Entablature ſometimes alſo alike in theſe two Orders, as may be ſeen in the Arch of *Titus*, where the Entablature is perfectly *Corinthian*. The Height of the whole Capital, as in the *Corinthian* Order, is taken from the Diameter of the lower Part of the Column, to which is added one ſixth Part more. Four Sixths of the Diameter are given to the Leaves, and this being divided into ſix Parts, one of them is for the bending of the Head of the Leaves. The three other Sixths that remain above the Leaves, which are for the Volutes, Ovolo, Aſtragal and Abacus, is parted into eight; ſix and a half of theſe are given to the Volute which reſts upon the Head of the ſecond Range of Leaves, two to the Abacus, one to the Space between the Abacus and Ovolo, two to the Ovolo, and one to the Aſtragal with its Fillet. The Flower, which is in the middle of the Abacus, over the Ovolo, riſes to the upper Part of the Abacus: it is broader by half one of theſe Eights than it is high. The Projectures are determin'd by Fifths of the little Module, as in the *Corinthian* Order, and the Plan of the Capital is alſo made in the ſame Manner, the Leaves are cut after the Manner of the Acanthus, or

Brank-

Brank-Urſin. The Flower in the Middle of the Abacus, is compos'd of ſeveral Leaves; of which, ſome join in the Middle, and others turn off ſideways. Under the Horns of the Abacus, there are Leaves which return upwards, as in the *Corinthian* Capital; and others, alſo, that lie upon the Side of each Volute. Inſtead of the Stalks, which are in the *Corinthian* Capital, here are ſmall Flowers, lying cloſe to the Vaſe or Bell, twiſting round towards the Middle of the Face of the Capital, and terminating in a Roſe,

In the Works of the *Antique*, and of the *Moderns*, we find a Diverſity as to the Proportions of the Members of this Capital; and likewiſe as to its whole Height, which, in ſome Buildings, has more than the ſeventy Minutes I give it; as in the Arch of *Titus*, where it has ſeventy-four and a quarter, and in the Temple of *Bacchus*; where it has ſeventy-ſix: in ſome others it has leſs, as in the Arch of *Septimius*, where it has but ſixty-eight and a half, in the *Goldſmiths* Arch, ſixty-eight and three quarters, and in *Serlio* but ſixty. The Abacus, which I give ſeven Minutes aud a half, has eight and two Thirds in the *Goldſmiths* Arch; nine in the Arch of *Septimius*, and in the Baths of *Diocletian*; ten in the Arch of *Titus*, and thirteen in the Temple of *Bacchus*. The Volute, which I make twenty-five Minutes, as it is in the Temple of *Bacchus*, has twenty-eight in the Arch of *Titus*, and but twenty-two in the Baths of *Diocletian*.

The Differences of the Character lie in this, that the Volutes, which ordinarily deſcend and touch the Leaves, are, ſometimes, ſeparated from them, as in the Baths of *Diocletian*, and in the Arch of *Septimius*; that the Leaves, which, in the Works of the *Antique* and *Moderns*, are unequal in Height, the lower Rank being talleſt, are yet equal in ſome of the *Moderns*; that the Volutes of the *Moderns*, moſt commonly ſpring from the Vaſe, as they do in the Arch of *Titus*; and ſometimes they poſſeſs the Length of the Abacus, over the Ovolo, without ſtriking into the Vaſe, as in the Arches of the *Goldſmiths*, and of *Septimius*, in the Temple of *Bacchus*, and in the Baths of *Diocletian*. That the Volutes, whoſe Thickneſs is contracted in the Middle, and enlarg'd above and below, in the Temple of *Bacchus*, in the Arches of *Titus* and *Septimius*, and in the Baths of *Diocletian*, have their Sides parallel in *Palladio*, *Vignola*, and *Scamozzi*; and that the ſame Volutes, as well in the *Antique*, as in thoſe *Modern* Authors that have written, are made as ſolid; whereas, at preſent, they are made, by our Carvers, after a more airy and free Manner; ſo that the Folds of the twiſted Bark, which compoſe them, do not touch, but ſtand hollow from each other; which, in my Opinion, is done with a great deal of Judgement: for, without it, this Volute has ſomething in it too maſſive, and

which

Chap. V. which ſuits not well with an Order, that, in general, is the lighteſt and moſt delicate of all.

The Entablature, as in all the other Orders except the *Doric*, is divided into twenty Parts, of which, ſix are given to the Architrave, as many to the Freeze, and eight to the Cornice. Theſe Proportions are different in Authors: for the Freeze is leſs than the Architrave in the Temple of *Bacchus*, in the Arch of *Septimius*, and that of the *Goldſmiths*, in *Palladio*, *Scamozzi*, *Serlio*, and *Viola*: but theſe two Parts are equal in the Arch of *Titus*, and in *Vignola*.

The *Compoſite* Architrave is more different from the *Corinthian*, than the *Corinthian* is from the *Ionic*, having but two Faces, between which, there is a ſmall Ogee, and inſtead of the great Cyma above with its Aſtragal, there is a Quarter-round between an Aſtragal and a Hollow. To find the Heights of theſe Members, the whole Architrave is divided into eighteen Parts, as in the *Corinthian* Order, of which, five are given to the firſt Face, one to the little Ogee above it, ſeven to the ſecond Face, half a Part to the ſmall Aſtragal next upon it, one Part and a half to the Quarter-round, and three to the Hollow, of which, the Fillet has one and a quarter. The Projecture is of two Fifths of the little Module, as in the *Corinthian* Architrave.

The Proportions and Character of this Architrave, have much Conformity with what we find in the Architrave of the Frontiſpiece of *Nero*, and of the Baſilic of *Antoninus*, from whence, *Palladio* and *Vignola* have modell'd the Architrave of their *Compoſite* Order, tho', in both theſe Structures, the Capital is *Corinthian*. But the Truth is, that in all the *Antique* Remains of the *Compoſite* Order, the Architrave is very different from this: for in the Temple of *Bacchus*, the three Faces are quite plain, without any Separation by Aſtragals; in the Arch of *Septimius*, there are indeed but two Faces, but the Cyma above, is an Ogee with an Aſtragal, as in the *Corinthian* Order, and in the Arch of *Titus*, it is all perfectly *Corinthian*.

The Freeze has nothing particular, except that in the Temple of *Bacchus* it is round, which *Palladio* has imitated; and that in the Arch of *Septimius*, it is join'd to the Architrave with a large Sweep. The Freeze of the Frontiſpiece of *Nero*, which I have follow'd, has alſo a Sweep, but it is above; the Sweep I give it is much leſs, being only made to join the Naked of the Freeze to the firſt Member of the Cornice, which, being a Fillet, uſually requires a Sweep, for the better Conjunction of it to the Mouldings, or Members, upon which it is plac'd; and 'tis probable the Sweep of the Frontiſpiece of *Nero* was made ſo large as it is, becauſe this Freeze is enrich'd with Sculpture of a conſiderable Thickneſs, and the Sweep prevents that ill Effect which the Carving produces in thoſe

thoſe Freezes that have no Sweep, where it equals the Projecture of the firſt Members of the Cornice; although, in truth, there are more carv'd Freezes without a Sweep, as thoſe of the Temple of *Fauſtina*, and of *Jupiter Fulminans*, of the Market of *Nerva*, of the Arch of *Titus*, and that of the *Goldſmiths*; than there are that have Sweeps, as that of the Temple of *Manly Fortune*, of the *Sibyl* at *Tivoli*, and the Frontiſpiece of *Nero*.

The Cornice of the Entablature.

THE Cornice is divided, as in the *Corinthian*, into ten Parts, and has likewiſe thirteen Members; but it ſeems more heavy, by reaſon the Corona is much more maſſy, and ſo are the Modillions, which are not cut with a Scroul, nor cover'd with Leaves, but are ſquare. The firſt Member of this Cornice, which is a Fillet, has a quarter of one of theſe ten Parts; the ſecond, which is an Aſtragal, has as much; the third is an Ogee, and has one Part; the fourth, which is the firſt Face of the Modillion, has one Part; the fifth, which is a ſmall Ogee, has half a Part; the ſixth, which is the ſecond Face of the Modillion, has one Part and a quarter; the ſeventh, which is a Fillet, has one quarter of a Part; the eighth, which is a Quarter-round, has half a Part; the ninth, which is the Corona, has two Parts, it has a Throat underneath, one Third of a Part deep; the tenth, which is an Ogee, has two Thirds of a Part; the eleventh, which is a Square or Fillet, has one Third of a Part; the twelfth, which is a large Cymaiſe, has one Part and a half, and the thirteenth, which is a Fillet, has half a Part.

THE Projectures are regulated as uſually by Fifths of the little Module: giving one Third of theſe Parts to the firſt Member, which is a Fillet, and another Third to the little Aſtragal over it, one Part and a Third is given to the large Ogee, which is the next Member; four Parts and two Thirds to the firſt Face of the Modillion, five Parts to the ſecond, five Parts and two Thirds to the Quarter-round above the Modillion, eight Parts and a half to the Corona, nine Parts and a Third to the Ogee of the Corona, and twelve to the great Cymaiſe.

ALTHOUGH the Character of this Cornice, as well as the Proportions of its Mouldings, are from the ſame Entablature of the Frontiſpiece of *Nero*, from whence the Architrave has been already taken, I have follow'd very near what *Palladio* and *Scamozzi* have copied, ſo that always following the Medium, I at firſt propos'd to my ſelf, I keep between the two Exceſſes: for Example, the Corona, which is extraordinary large, in the Frontiſpiece of *Nero*, being a Fourth of the whole Cornice, and which, in *Palladio*, has but a ſixth Part, and no more than a ſeventh in *Scamozzi*, has here the fifth Part; the Modillion, which, in the Frontiſpiece of *Nero*, and in *Scamozzi*, is but the fourth Part of the whole Cornice, has a

Third of it in *Palladio*; I have followed him in that, as likewiſe in almoſt all the reſt, which is more conformable to that of the Frontiſpiece of *Nero*, than what *Scamozzi* has given us, who has taken from the *Corinthian* Order, all the Mouldings that are below the Modillions: namely, an Echinus or Ovolo, a Dentel, and a large Ogee. The reſt of the *Moderns* have neither follow'd the *Antique*, who, in the Arches of *Titus* and *Septimius*, give the *Compoſite* Order a *Corinthian* Cornice, nor the Pattern of *Nero*'s Frontiſpiece: for *Vignola* gives it a Cornice very plain, not much differing from that of the *Ionic* Order. *Serlio* and *Bullant* have made it even more homely than in the *Tuſcan* Order. For enriching this Cornice, which is not ſo very ſuitable to an Order of ſuch Delicacy as the *Compoſite*, where the Capital is ſo much imbeliſh'd, there muſt be no want of carving thoſe Members that are capable of it, ſuch as are the Aſtragal, and the Ogee below the Modillions, the Ogee and Quarter-round of the Modillions themſelves, and the Ogee which is under the great Cymaiſe, which Cymaiſe, probably for this very Reaſon, is adorn'd with a very rich Sculpture in *Nero*'s Frontiſpiece, although Carving is not eſſential to this Part, as it is, in ſome meaſure, to the other Members of this Cornice.

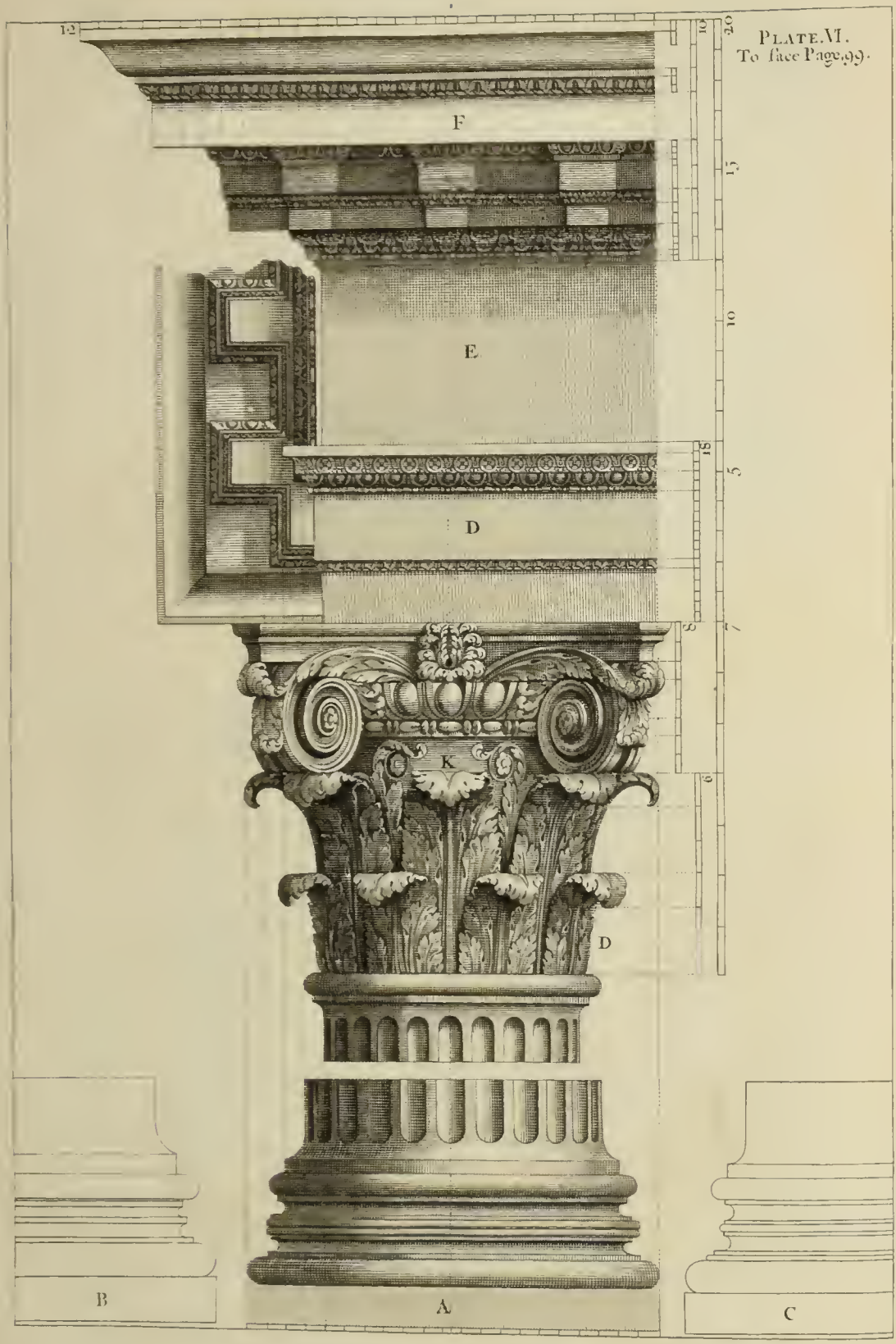


PLATE. VI.
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The EXPLANATION of PLATE VI.

A THE *Base of the* Compoſite *Order of the Arch of* Titus, *which is the ſame that the* Ancients *gave to the* Corinthian *Order.*

B *The Baſe of the Temple of* Concord, *in Imitation of which,* Vignola *made his Baſe of the* Compoſite *Order.*

C *The Baſe which was formerly in the Baths of* Diocletian, *copied from that of the Temple of* Concord, *and given by* Vignola *to the* Compoſite *Order.*

D *The Architrave taken from* Nero's *Frontiſpiece, and the Baſilic of* Antoninus.

E *The Freeze, having a Sweep at the upper Part, as it is in* Nero's *Frontiſpiece, where the Sweep is much greater, probably on account of the Ornaments carv'd in the Freeze.*

F *The Cornice, taken alſo from the Frontiſpiece of* Nero.

K *The Capital, according to the Proportions and Character which our Carvers, of late, have given it; where the moſt remarkable Things are, the Equality of Height in the Leaves of* Acanthus, *the Tenderneſs of the Volutes, which are open'd very gracefully, the Circumvolution of the Bark which compoſe them, being parted one from the other, and the Volute not being maſſive and ſolid, as it is in all the Works of the* Ancients *and* Moderns.

OF PILASTERS.

CHAP. VI.

Of PILASTERS.

AFTER having ſpoken of Columns, it remains that we diſcourſe of what relates to Pilaſters, which are ſquare Columns. Theſe ſquare Columns are of ſeveral Kinds, their Difference ariſing from the Manner in which they are applied to Walls: which makes alſo the Difference between other Columns: for as there are ſome inſulate or naked, ſtanding quite detach'd from the Wall, others that are conjoin'd to it at the Corner, having two Faces free, and others, which being half ſunk in the Wall, or only a third Part, have none, but the Face in front, entirely free; ſo there are, alſo, ſome Pilaſters wholly detach'd or inſulate; there are others that have three Faces clear of the Wall, others that have only two, and others that have but one entirely free and diſengag'd.

SQUARE or Inſulate Pilaſters, are rarely found in the *Antique*, though there is one Inſtance of them in the Temple of *Trevi*, deſcrib'd by *Palladio*. They are plac'd at the Extremities of Porches, to give the greater Strength to the Corners. Thoſe that have three Faces out of the Wall, and thoſe that have but two, were call'd *Antæ* by the *Ancients*. *Vitruvius* calls thoſe that have but two Faces out of the Wall, Angular *Antæ*, or *Antæ* of the Walls that encloſe the Temple; to diſtinguiſh them from others that have three Fa-

CH. VI. ces diſengag'd, and which are plac'd at the End of the Walls of the Porch. Pilaſters that have but one Face out of the Wall, are alſo of two ſorts; for there are ſome that ſtand half out of the Wall, and others but a ſixth or ſeventh Part: theſe latter, which were ſeldom made uſe of by the *Ancients*, are now moſt common in our Architecture.

THERE are four principal Things to be regulated in Pilaſters, namely, their Projecture out of the Wall, their Diminution, the Manner of placing the Entablature upon them, when it lies upon a Column at the ſame time, and their Flutings and Capitals.

THE Projecture of Pilaſters which have only one Face out of the Wall, ought to be half their Breadth, or elſe, at moſt but a ſixth Part, as it is in the Frontiſpiece of *Nero*, unleſs you are oblig'd, by ſomething, to give them a greater Projecture. In the Porch of the *Pantheon*, the Pilaſters, that are on the out-ſide, advance but a tenth Part, and ſometimes they have but a fourteenth Part, as in the Market of *Nerva*. But when Pilaſters are to receive Impoſts, whoſe Profils come againſt their Side, their Projecture ought to be a Quarter of their Diameter; and this Proportion has this further Conveniency, that it does not oblige us to cut our *Corinthian* and *Compoſite* Capitals irregularly: for it falls out that the lower Leaf is cut exactly in the Middle, and in the *Corinthian* Order, the Stalk alſo is cut in like manner. On this very account of the Symmetry of the Capitals, when half Pilaſters meet at the inward Angles, they ſhould have more than half their Diameter, as ſhall be ſhewn in the following Chapter.

PILASTERS are not uſually diminiſh'd, when they have but one Face out of the Wall; thoſe on the out-ſide the Porch of the *Pantheon* are alſo without Diminution: but when Pilaſters ſtand upon the ſame Line with the Columns, and the Entablature is to be continued over both, without making a Break, as it is upon the Side, without the Porch of the *Pantheon*, the Pilaſter, then, ought to have the ſame Diminution as the Column; that is, on the Face which reſpects the Column, leaving the Sides, without any Diminution, as we ſee it practis'd in the Temple of *Antoninus* and *Fauſtina*. But when the Pilaſter has two Faces clear of the Wall, ſtanding at a Corner, and one of the Faces anſwering a Column: that Face is diminiſh'd as the Column; as it is in the Porch of *Septimius*, where the Face that does not anſwer the Column is not diminiſh'd: but however, there are Examples in the *Antique*, where the Pilaſters have no Diminution, as within the *Pantheon*;

or

or where they have but very little, and not ſo much as the Column, as in the Temple of *Mars ultor*, and the Arch of *Conſtantine*. In this Caſe, the Practice of the *Ancients* is ſometimes to lay the Architrave juſt over the Naked of the Column, which makes it recede ſomewhat within the Naked of the Pilaſter, as is done in the Temple of *Mars Ultor*, within the *Pantheon*, and in the Porch of *Septimius*; ſometimes they part the Difference in two, giving the Architrave a Projecture of half the Odds, beyond the Naked of the Column, and making it recede the other half within the Naked of the Pilaſter, as it is in the Market of *Nerva*.

As to their Flutings, there are ſometimes Pilaſters that have them, though the Columns they accompany, have none, as in the Porch of the *Pantheon*; but in this Building, the Columns not being of white Marble, are without Flutings, becauſe Marbles of divers Columns are very ſeldom fluted. There are alſo Columns fluted, ſometimes accompanied with Pilaſters not fluted, as in the Temple of *Mars Ultor*, and in the Porch of *Septimius*. There are no Flutings made on the Returns of Pilaſters, when they have leſs Projecture than half their Diameter. The number of Flutings is different in the *Antique*: there are but ſeven in the Porch of the *Pantheon*, in the Arch of *Septimius*, and that of *Conſtantine*; there are nine within the *Pantheon*, though the Columns have no more than the uſual number of twenty-four. The Flutings of Pilaſters are always odd in their Number, unleſs in half Pilaſters, that meet at inward Angles, for there, four Flutings are made inſtead of three and an half, and five inſtead of four and an half, when the whole Pilaſters have ſeven or nine. This is to be underſtood, that the Pilaſters, thus meeting in an inward Angle, ſhould have ſo much more Breadth than half their Diameter, as may receive the even number of Flutings before-mention'd: which is done to avoid the ill Effect of the Capital, that, being folded as it were in the Angle, would be too much narrow'd in the upper Members; and in thoſe Capitals that have Leaves, this Narrowing would produce a Confuſion not to be prevented but by ſuch Enlargement.

The Proportions of theſe Capitals are the ſame with thoſe of Columns, as to their Heights; but their Breadths are different, the Leaves being much wider, becauſe Pilaſters, being of more extent than Columns, have yet but the ſame number of Leaves, which is eight for their whole girt, though there are Inſtances of Pilaſters that have twelve Leaves, as in the Frontiſpiece of *Nero*, and in the Baths of *Diocletian*. The uſual Diſpoſition of the Leaves of Pilaſters is ſuch, that, in the lower Row, where the leſſer Leaves

are

Ch. VI. are, there are two on each Face, and, in the upper Row, one in the middle, and two Half-leaves on the Sides, which are half the great Leaves folded back upon the Angle. What is farther remarkable is, that commonly the Rim of the Vaſe, or Tambour, is not ſtrait, as the lower part is, but a little circular and prominent in the middle: that of the Baſilic of *Antoninus* advances the eighth Part of the Diameter of the Column below, but in the Porch of *Septimius* it is but a tenth, and no more than a twelfth in the Portico of the *Pantheon*.

There are alſo many other Things, relating to Pilaſters, diſcours'd of in the two following Chapters.

CHAP. VII.

Of the Abuſe of the Change of Proportions.

HERE are ſome Things ſo rivetted in the general Opinion of the World, that a Man would be thought ridiculous, ſhould he attempt to ſcan them, though they ſeem not of ſo undoubted Authority, when more nearly look'd into. The Change of Proportions, in Architecture, and Sculpture, which, they ſay, ought to be made according to the different Aſpects, may juſtly be reckon'd among this Number. Architects ſpeak of this as a Point that gains them the greateſt Reputation, and pretend that 'tis in the Practice of the Rules, they have for this purpoſe, that the Excellency of their Art conſiſts. However, there are ſome of Opinion, that this Change is no ſuch ſtupendous Matter, that theſe Rules have not been put in Execution, that even the contrary has been practis'd in the moſt approv'd Works, and that the Reaſons, upon which they are grounded, are receiv'd by common Conſent, as they have been a long time, only becauſe they have paſs'd without Examination.

THIS Examen is what I intend to make in this Chapter, that I may conclude this Treatiſe with one Paradox, as I began it with another, which alſo relates to the Change of Proportions. For in the Preface, I have endeavour'd to ſhew that the greateſt part of the Proportions of Architecture being arbitrary, and not of the number of thoſe things that have a poſitive and natural Beauty,

CH. VII. there is nothing ought to hinder us from making ſome Change in the eſtabliſh'd Proportions, and finding out others that would appear as beautiful. And I aſſert here, that theſe Proportions, once regulated, ought not to be alter'd, and made different, in different Buildings, for any Reaſons of the Optics, or Difference of Aſpects, they may have. But I foreſee much more Contradiction in this ſecond Paradox, than I found in the firſt, where I was only to encounter the Opinion of Architects, who being govern'd by the Idea they have of what is beautiful, do not conſider this Idea as a thing that they themſelves have form'd, by Study, and by obſerving approv'd Buildings; but take it for a natural Principle. For the reſt of the World, who are free from the Prepoſſeſſion of Rules and Cuſtom, and on that account, do not perceive whether an Aſtragal, or a Torus, have too much, or too little Height, or Projecture, will eaſily conclude, with me, that had the Proportions of Architecture, Beauties that are natural, we ſhould naturally know them, without any need of Inſtruction, by Uſe and Study. But, as to the ſecond Paradox, I am aſſur'd there is no one but thinks the Change of Proportions a thing very juſt and reaſonable, and who is not confirm'd therein by that famous Story of the two Statues of *Minerva*, made to be ſet on a very high place, of which, they pretend, one ſucceeded ill, becauſe the Sculptor had not chang'd the Proportions: and I doubt not but thoſe who ſhall hear the Arguments on that Subject, may yeild to them as being ſpecious, and be very loth to quit an Opinion, which, they think, is founded upon Reaſons ſo good as thoſe drawn from the Optics, and the deceitfulneſs of our Senſes, which they think it very reaſonable that Art ſhould remedy.

For upon account, that the Images of things painted, in the Eye, are ſmaller, and leſs diſtant, when the Objects are more remote, than when they are near, and that a foreright View makes the Objects appear otherwiſe than an oblique one, they imagine we ought to ſupply that Defect, and remedy it by Art: therefore they ſay, that Columns, which are uſually really leſſen'd towards the top, ſhould have a leſs Diminution, when they are very great, than when they are very ſmall; becauſe their Length makes them appear to be leſſen'd upwards, as a Gallery ſeems narrower at the further End. They would likewiſe have the Entablatures upon great Columns, larger than the regular Proportion, becauſe their Height makes them appear ſmall; and the Faces of the Members, which are generally plum in moderate Situations, they would have lean forward, when plac'd very high, leſt they ſhould appear too narrow; and laſtly, they require that the Soffites, or under Parts of the Members, which are commonly level, ſhould riſe up before,

when

when they are plac'd low, and but little above the Eye, leſt they ſhould ſeem to have too little Projecture. In the ſame manner, in Sculpture, they would have thoſe Figures which are to be ſet at a Diſtance, made larger, bolder, and more rude, that they might not appear too mean and obſcure; and that ſuch Statues as are plac'd in very high Niches, bend forward, that they may not ſeem to lean backwards.

I begin the Examinations of theſe Reaſons by matter of Fact, and do affirm, that there are no Inſtances of the Practice of this Rule of the Change of Proportions, and that if ſome may poſſibly be met with, we are not to think this Change was made for any Reaſons from the Optics, but only by chance, ſince theſe Changes have not been practis'd in the moſt approv'd Buildings.

To begin with the Diminution of Columns, we find that the largeſt, and leaſt, have the ſame Diminution in the *Antique*, and that there are ſmall ones, which have even leſs than the largeſt. The great Columns of the Temple of *Peace*, of the Portico of the *Pantheon*, thoſe of *Campo Vaccino*, and of the Baſilic of *Antonine*, the very Shafts of which are between forty and fifty Foot high, have the ſame Diminution as thoſe of the Temple of *Bacchus*, where the Shaft is ſcarce ten Foot high. But thoſe of the Temple of *Fauſtina*, of the Porch of *Septimius*, of the Baths of *Diocletian*, and of the Temple of *Concord*, whoſe Shafts have from thirty to forty Foot in Height, have even more Diminution than thoſe of the Arches of *Titus*, of *Septimius*, and of *Conſtantine*, whoſe Shafts have no more than from fifteen to twenty Foot. 'Tis plain, then, that the different Diminution of theſe Columns was not determin'd by any Rules of the Optics, ſince the talleſt having a great Diminution, and the ſhorteſt a ſmall one, would, according to thoſe Rules, produce an Effect quite contrary to the Intention of the Architects.

As to raiſing the Soffites, or Planchers, on the forepart, 'tis pretended to be done, that the Projectures of the Members may the better appear, and they hold this to be principally neceſſary in three Caſes; namely, when they are to be view'd at a great Diſtance, when the Parts are not ſituated very high, and when there is not Liberty to give them their proper Projectures. Nevertheleſs, we find, that, in theſe very Caſes, the contrary has been practis'd in the *Antique*. For, in regard of the Aſpect, in the Porch of the *Pantheon*, where the View may be very diſtant, and where, on that account, the Projectures would ſeem ſmall, the Soffites, nevertheleſs, are not rais'd before, and yet, within the Temple, they are rais'd, where, the View being neceſſarily near, there was no need of it. As to parts ſituated low, we find the contrary of this Rule, in moſt approv'd Buildings, where the Soffites are often rais'd in thoſe parts that

Ch. VII. that are plac'd higheſt, which have no need of it, and yet are not rais'd in thoſe that are plac'd loweſt. Thus it is in the Theatre of *Marcellus*, where the Soffites, as well of the Architraves as the Impoſts, are rais'd in the ſecond Order, and are not in the firſt; and in the *Coliſeum*, where they are equally rais'd in all the four Orders, and again, in the Temple of *Veſta* at *Tivoli*, and in the Temple of *Bacchus*, which are the ſmalleſt Orders, and the Entablatures ſituated the loweſt of any, where the Soffites are not rais'd at all. Laſtly, as to the ſmall Projectures we are ſometimes oblig'd to give, this too does not appear to have occaſion'd the raiſing of the Soffites, ſince there are Buildings of good Eſteem, where the Projectures are very large, and yet the Soffites are rais'd; as in the Architrave of the Temple of *Manly Fortune*, where the Soffites of the Faces are rais'd, though the Largeneſs of their Projectures is extraordinary.

As to the Inclining of the Faces, which ſome think ſhould be made to lean forward, to hinder the oblique Aſpect from making them look narrow, they ought to be made ſo according to their Rule, when too near a view confines one to ſee them obliquely, or when 'tis neceſſary that a Face ſhould appear large, when we are oblig'd for ſome Reaſon to make it little: but we do not find it thus in the *Antique*. For in the Portico, and within the *Pantheon*, where the Aſpects are different, all the Faces lean backwards; and ſo they do in the Temple of *Bacchus*, and in the Baths of *Diocletian*, where the View being near of Neceſſity, they ought, according to the Rule, to have lean'd forwards. Again we almoſt conſtantly find, that though the Faces have no more than their due Proportion, yet notwithſtanding they are made leaning backwards, and we find ſome that are ſo, though they are even leſs than they ought to be. This is obſervable in the Temple of *Veſta*, at *Tivoli*, where the upper Face of the Architrave, which is much too ſmall, leans backwards. In fine, we generally find that the Faces lean backwards, whether they are in thoſe Parts that are ſituate very high, or low; nor can any one give a Reaſon why they incline forwards in the Temple of *Mars Ultor*, and in the Market of *Nerva*, which are almoſt the only *Antique* Buildings where they do ſo. For the Reaſon that obliges one ſometimes to make them lean backwards, is the Need there is of giving a convenient Breadth to the Soffites of the Members, of which an Impoſt, a Cornice, or an Architrave, is compos'd, when we are not willing to give that Projecture to the whole, which it would have, did not the Faces lean backwards. But 'tis evident the *Ancients* did not make them lean back for this Reaſon, ſince they did it without any ſuch Neceſſity, as appears by the Architrave of the Temple of *Manly Fortune*, where the Faces lean backward, though the Soffites have double the Projecture they ought to have.

† Nor

Nor do we find that the *Ancients* made their Sculpture more imboſs'd, rude and courſe, nor that their Figures were larger in Works ſituated very high, than thoſe that were plac'd near the Sight. In the *Trajan* Column, the Figures of the Bas-relief are neither larger nor more imboſs'd above than below. The Statue of *Trajan*, which ſtood at top of it, had not the ſixth Part of the Column; and 'tis certain, it was leſs by half, in proportion to the Column, than the Figures, which *Palladio* ſets upon Columns, leſs by half than the *Trajan* Column: and this Architect, who talks like all the reſt, of the Change of Proportions, and who practices it no more than the others, makes his Figures, that are plac'd on high, and thoſe that are ſet below, of the ſame bigneſs, and very often bigger below than above, in the *Antique* Temples he has deſign'd. *Pliny* remarks, that on the Top of the *Pantheon*, there were formerly Statues, which were not reckon'd into the Number of excellent Works, though they were exquiſitely fine, becauſe, ſays he, they were plac'd too high, that is, the Diſtance hindred the ſeeing them diſtinctly. Nevertheleſs, the famous *Athenian*, *Diogenes*, who made them, as he did, alſo, all the other Figures of that Temple, ſet them in that Place; and there is no ground to think but this famous Artiſt knew the Story of the two *Minervas*, and might value himſelf, as others do, upon the Change of Proportions, but he made the ſame uſe of it as the reſt, who never practis'd it.

'Tis true, however, that there are Inſtances, both in the *Antique* and in the *Moderns*, that make it evident, they have ſometimes had Intentions of changing the Proportions, on account of the View: but beſides that theſe Sorts of Changes are rare, 'tis certain they produce an ill Effect. We have Examples of this in the Court of the *Louvre*, where the Figures in the Bas-relief of the *Attic*, are made much larger than thoſe that are below, which diſpleaſes every one. The ſame has alſo the like Effect, at the Portal of Saint *Gervais*, where, by reaſon of the great Height, the Statues are made of an exceſſive Bigneſs. But the moſt remarkable Inſtance of the Change of Proportions, made on account of the Optics, is in the *Pantheon*: it conſiſts in that the Squares, or Pannels, of the Compartiment of the Vaults, being ſunk, as it were by Steps, in manner of hollow Piramids, the Axis of theſe Piramids, inſtead of tending to the Center of the Cupola, tends downwards to a Point in the middle of the Temple, five Foot high above the Pavement, ſo that this Axis is not perpendicular to the Baſe of the Piramid, as it ought, in reſpect of Symmetry, to have been: for this Change makes theſe hollow Piramids appear from below, in the middle of the Temple, juſt as they would, were one rais'd to the Center of the Vault, and that they were all directed thither. But as ſoon as one goes from

Ch. VII. the middle, this Effect ceaſes, and we perceive the Obliquity of the Axis, and the Defect of Symmetry in the Piramids; which is a thing much more diſagreeable to the Eye, than if the Sinkings had been made with a true and proper Direction, in reſpect to the Center of the Cupola: for the only Inconvenience of this direct, and as I may call it, natural Tendency, is, that one part of the Tread, as it were, of theſe Steps of the lower Side of each Piramid, would have been hid by the Height or Riſe of the Steps, when one ſtands near the Wall, and that we ſhould have ſeen a greater Part of theſe Treads, the further we went from the middle: which is no more an Inconvenience than it is, that, in a Face viewed ſideways, the Noſe hides ſome part of one of the Cheeks. For the Architect of the *Pantheon*, has done juſt as if a Painter, being to draw a ſide-Face, ſhould make the Noſe to be view'd fore-right, leaſt, if it were as it ought to be, it ſhould hide part of one of the Cheeks. *Labaco*, who like other Architects, commends the Change of Proportions, without practiſing it, has made his Advantage of the ill Succeſs this Alteration had in the *Pantheon*, and in a Deſign which he has printed, for the Cupola of Saint *Peters*, he has made the hollow Piramids of the Compartiments of his Vault, tend to the Center of the Arch, as they ought to do, being of Opinion, that the Change of this Center could not have a good Effect, though the great Height of the Church of Saint *Peter*, above that of the *Pantheon*, adds mightily to the Inconvenience caus'd by the Thickneſs of the Steps, hiding the Tread of thoſe within them. But 'tis likely, he had no regard to this Inconvenience, as being what the Sight is never offended at, there being nothing more common, than to ſee ſome Parts hide others, and nothing to which the Eye is more accuſtom'd than to ſupply the Proportions of entire Objects, by the Judgment it makes of the Bigneſs of that whole, of which it ſees only a part.

And this Reaſon, of the Judgment of the Sight, is, in general, the Cauſe why we ought not to change the Proportions, ſince this Judgment is never wanting to inform us right, and hinder our being deceiv'd by thoſe Alterations and diſadvantageous Effects, which are thought to be produc'd by Diſtance and different Situations. And this is what remains to be explain'd, that there is no Reaſon to change the Proportions; as there is no Example, among the *Ancients*, that they have been chang'd, which has been already ſhewn.

The Judgment, wherewith all the Senſes are furniſh'd, is a thing we poſſeſs without knowing it, and without perceiving that we uſe it, by reaſon of Cuſtom, which being as a ſecond Nature, makes us leſs diſpos'd to perceive that we exerciſe this Action, ſo that it becomes, as it were, of different Kind from the reſt of the Actions of the Judgment, which not being ſo often reiterated, cannot be

exercis'd

exercis'd without our making Reflexion, and taking particular Cognisance of them. On this account it is, that, among the Senses, those which are most commonly us'd, as the Sight and Hearing, have a Judgment much more exact than the others, and are less deceiv'd, in discerning the Circumstances that may cause a Mistake. For this is the Reason, that we judge so certainly by the Eye, and the Ear, of the Distance, Bigness and Force of Objects, and that the other Senses cannot so easily discern these Circumstances; as for Example, that the Feeling does not easily discern the Difference of the Heat of a great Fire, at a Distance, from that of a little one, near at hand; that the Taste does not often distinguish the Weakness of a small Wine, from that which a stronger has, when mix'd with Water; and that the Smell mistakes a Scent that is weak in its own Nature, for that which is only so, on account of the Smallness of its Quantity; whereas the almost continual Exercise of the Sight, and Hearing, has, by a long Custom, gain'd them a Facility and Readiness, which the other Senses have not for want of Use. For if, when we feel the End of a Stick, with the Extremities of two Fingers a-cross one another, we presently think we feel two Sticks, 'tis because we are not us'd to feel after this manner, since if we continue to touch it so for a pretty while, we are no longer deceiv'd, and we perceive that we feel but one Stick. Just as when the Eyes are any ways displac'd, and out of their ordinary Situation, we see Things double; and yet, those that squint, whose Eyes are naturally thus displac'd, do not so, because they are accustom'd to correct, by their Judgment, the Error, which the unnatural Situation of their Eyes leads them into.

It is very probable, that Animals, at their Birth, see very erroneously, and that they judge distant Objects to be as small, as the Draught, made in their Eye, represents them, and that Experience having shewn them they were deceiv'd, corrects the Error of this first Judgement; and so in time, the Judgement becomes accustom'd to make use of all Means to defend it self from being impos'd on, till at last, it comes to the same Perfection we find, when we begin to see well; and this Perfection is such, that there is no one who thinks a Tower at a distance, which is hid by putting the Finger near the Eye, is really less than the Finger, nor that a Round, viewed obliquely, is an Oval, nor an Oval a Round; although the Appearances of these Things in the Eye, are really such. And 'tis of great Use to reflect upon the Exactness and Nicety of this Judgment, which is such as would be incredible, did not Experience confirm it, and did we not see, every Day, that a Coachman, fifty Paces off, will tell us his Coach cannot pass between two others, though there wants not above two Inches of

Room

Ch. VII. Room enough to do it; that a Sportſman judges of the Bigneſs of a Bird upon the Wing, that a Gardner knows the Size of the Fruit on the Top of a Tree, that a Carpentet knows that of the Timbers on the Roof of a Houſe, and that an Engineer meaſures exactly, by his Eye, the Thickneſs and Height of a Water-ſpout.

Nor is it by Experience only, that we are convinc'd the Eye does not deceive us ſo much as ſome alledge, but Reaſon alſo ſhews it, by teaching us what Methods the Judgment takes to hinder our being deceiv'd, and what it founds it ſelf upon, to acquire ſo difficult a Knowledge with ſo much Certainty. To know what this Foundation, and what theſe Means are, we muſt conſider what Painters do when they would deceive the Sight, by making Things appear near or far off. For what they do for this purpoſe, is what the Judgement of the Sight obſerves and examines with the greateſt Exactneſs, which conſiſts principally in two Things, which are the Modification of the Size and Figure, and that of the Colours. The modifying the Size and Figure, ſerves to ſhew the Diſtance, when Things are leſſen'd and diſpos'd as they ought to be, by making, for Inſtance, a Floor, or Pavement, to riſe, a Cieling to deſcend, and the further Extremities of the two Sides, to come nearer together; the Regulation of the Colours ſerves to produce the ſame Appearance of Diſtance, when their Force is diminiſh'd, by taking away the too ſtrong Lights from the enlightned Parts, and the two great Obſcurity from thoſe that are ſhadow'd; and this in ſuch Manner, that theſe two Kinds of Modification always go together. For we muſt ſuppoſe, that the Judgement of the Sight examining all theſe Things, concludes, that an Object, whoſe Appearance is ſmall in the Eye, is really ſmall and near; if its Parts are enlightned by a very ſtrong Light, and the Shadows are very dark, and that a Pavement, which is deſcrib'd riſing to the Eye, is not ſo in Effect, but that it is very long, when the Parts that compoſe it are ſo colour'd, that, as it riſes, the Lights and Shadows grow weaker and weaker.

Besides theſe two Modifications, which the Judgement of the Sight examines with great Exactneſs, it alſo takes notice of other Circumſtances, and makes uſe of other Means to know the Magnitude and Diſtance of Objects far off. Theſe Means conſiſt in the Compariſon it makes of Things known, with thoſe unknown, ſo that the Knowledge of the Diſtance informs it what is the Magnitude, and the Magnitude which it knows, tells it the Diſtance: for we judge that thoſe Objects whoſe Size is known, as a Man, a Sheep or a Horſe, are at a good Diſtance, when they appear ſmall to the Eye; and for the ſame Reaſon, when a Tower, which we know to be a great diſtance off, ſeems large to the Eye, we judge

† that

that the Tower is actually large, and 'tis to be underſtood, that this is done by ſuppoſing that theſe laſt Means of judging, taken from the Compariſon of Things known, with thoſe unknown, ought to be join'd with the former, taken from the Modification of Size and Figure, and that of Colours: for the modifying of the Colours, inabling us to judge of the Diſtance, and the Diſtance, making us judge of the Size, and the Modification of the Size, making us alſo judge of the Diſtance, 'tis certain that the Mind, which has been a long time habituated, by almoſt infinite Experiments, to examine, unite, and compare, all theſe things together, acquires, at length, ſuch a readyneſs of diſcerning the Size, Diſtance, Figure, Colour, and all the other Truths of diſtant Objects, as is next to infallible.

But that which proves the Exactneſs and Infallibility of the Judgement of the Sight, and demonſtrates certainly, that this Senſe is not ſubject to be ſurpriz'd and cheated as ſome aſſert, is the difficulty of effecting it, though endeavour'd at by the moſt perfect and ingenious Art: for excepting ſome few Birds that fly at Random, we rarely ſee an Animal deceiv'd by a piece of Perſpective. The Painter may do his utmoſt in diminiſhing his Figures, in giving a due Obliquity to his ſide-lines, and weakening the Lights and Shadows to the ſame Degree that Nature throws them in their ſeveral Diſtances: but as it is impoſſible to deſcribe them ſo preciſely as Nature does, the Eye, which is more juſt and exact than the Painter's Hand, eaſily perceives what is wanting of this ultimate Perfection. And there can no other Reaſon be given why we are not deceiv'd by painting; but the certainty of the Sight, which, beſides the Imperfection that is always in a picture, by the Fault of the Workman, diſcovers, ſtill, other Defects, which neceſſarily ariſe from the Thing it ſelf; it being impoſſible but that, notwithſtanding all the Faintneſs that can be expreſs'd in the colouring, to make, for Inſtance, a Mountain appear very far diſtant, the Eye will perceive the Lights and Shadows with the Strength that Bodies have which are nearer: becauſe the Inequalities of the Cloth or Wall, which are really near us, have ſome of theſe Lights and Shadows ſo ſtrong as is not ſeen in things at a diſtance. And 'tis on the ſame account, that the Voice of thoſe who ſpeak, as we ſay, from the Belly, which reſembles a Voice at a great Diſtance, does not deceive us, when we mind it with Attention; becauſe the Ear diſcovers, in this faint Voice, ſome ſmall Sounds intermix'd, that have all the Strength of a nearer Sound. For, though a Picture far off, does not ſhew, very diſtinctly, the Inequalities of its Surface, yet it is true, that the Fidelity and Exactneſs of the Sight, is ſuch, that the imperfect, and confus'd Perception we have of it, is ſufficient to prevent our being deceiv'd.

Ch. VII. This Exactneſs of the Judgement of the Sight, and the Certainty of the Knowledge it gives us, being then ſo preciſe as they are, 'tis not very difficult to conceive that the Diſtance of Objects, not being capable to deceive and ſurpriſe us, theſe Proportions cannot be chang'd without our perceiving it, and for this very Reaſon, ſuch Change is not only uſeleſs, but ought to be accounted vicious: becauſe the Eye of one, for Example, who knows what ought to be the Proportion of an Entablature, can't fail of perceiving that which is made larger upon a great Column, in proportion, than on a little one, notwithſtanding the Height it is rais'd to; juſt as every one can judge whether a Man that ſtands at a high Window, has a Head bigger than Ordinary; ſo that if the uſual Proportion of an Entablature be any ways reaſonable, on account of that relation which the Maſs, to be ſuſtain'd, has to the Strength of that which bears it; this Entablature, which is really greater than it ſhould be, in proportion to the Column that ſupports it, will neceſſarily diſpleaſe the Eye: and the ſame thing would happen, if, to prevent a Statue in a Nich, or a Buſt upon a Conſole, from appearing to lean backward, we ſhould ſet it leaning forward: for if they do lean forward, they would infallibly appear ſo to do.

For the ſame Reaſon, if, in Sculpture, to prevent the great Diſtance from making the Parts of Works plac'd very high, appear too confus'd and indiſtinct, we make them rude and groſs, the Eye will diſcover them to be ſo; becauſe comparing the Diſtance which it knows, with the Confuſion it naturally expects, in things at ſuch a Diſtance, it will be offended to find that Diſtinction which it judges ſhould not be there; as we ſhould not like a Picture, where things, at a diſtance, were made as ſtrong, and as diſtinct, as thoſe that are near: for if it is true, that none but the ignorant, love to ſee the Hairs of the Eye-brows, and the Red of the Lips, diſtinctly expreſs'd, in Figures that are very remote in a Picture; ſo there are none to be found, that can bear, in Statues plac'd ever ſo high, that the Eyes ſhould be hollow'd, the Holes in the Hair-curles made, and the Muſcles ſhewn ſtronger than they are, unleſs among ſuch as know not wherein the Beauty of Sculpture conſiſts: for thoſe who have an Idea of the Perfection of Workmanſhip, will always perceive that the Proportions are chang'd and ſpoil'd, at leaſt by comparing one Part with another; it being impoſſible to make every Part equally hard and expreſſive, as for Example, to make the Shadow of the Head upon the Neck, as dark and diſtinct as that which is about the Eyes, that are hollow'd and ſunk deeper, on purpoſe to give them the Strength that is affected in Sculpture, ſituated in Aſpects at a great Diſtance.

For

For ſuppoſing that the Eye were not capable, by its Judgement, to inform us, very exactly of the Bigneſs of things at a diſtance, and that a Coachman is not ſo well aſſur'd of the Room he thinks his Coach cannot paſs in, as if he meaſur'd it, it muſt alſo be conſider'd that it is not this Exactneſs alone that is requir'd to make the Eye capable of not being deceiv'd by the Diſtance, when the Buſineſs lies in the Knowledge of Proportions: nor is it neceſſary, in this Caſe, to know abſolutely the bigneſs of a Thing; but to know how to compare it, with thoſe that are adjoining to it. For as a Coachman judges the Space through which he would paſs, to be little, chiefly, becauſe he compares it with the Size of the two Coaches between which he muſt paſs: ſo the Eye judges of the Bigneſs of an Entablature, and knows very well when it is too large, though it cannot preciſely tell of what Dimenſion it is; it being ſufficient that it compares the Bigneſs of it with that of the other Parts of the Building. Now Diſtance does not hinder the making this Compariſon; becauſe, though it does leſſen the Appearance of the Bigneſs of this Entablature, it does the ſame, alſo, by the other Parts of the Building that are near, and accompany it, and can, by no Means, prevent the Eye from diſcerning the Addition, which the Architect, or Sculptor, has given to the Bigneſs of any Part.

But although it were not certain, that the Judgement of the Sight is capable of hindering the Diſtance of Objects, and their Situation, from deceiving us, yet 'tis certainly true, that the Change of Proportions is no good Remedy for this ſuppos'd Defect; becauſe it cannot have a good Effect, but from one certain ſtated Diſtance, and only ſuppoſing the Eye not to change its Place: and that as in thoſe optical Figures, whoſe Proportions are ſo adjuſted, that being view'd at one certain Point, they produce a good Effect, and are utterly deform'd when the Eye is moved to another Place; ſo thoſe Proportions that are chang'd in a Building, to produce a good Effect to the Eye, viewing them from one certain Place, would alſo appear very deform'd and diſagreeable, when we change our Situation: becauſe the Aſpect, which is oblique, when we are near, ceaſes to be ſo in proportion to the Diſtance we remove: And thus the Face of a Corona, or Drip, which is made larger, or leaning forwards, that the Obliquity of the Aſpect might not make it appear too ſmall, would certainly ſeem too big, when, by changing the Aſpect, this Obliquity ceaſes.

In fine, to conclude in one Word, I believe that upon due Conſideration, we ſhall find no Reaſon at all to alter and ſpoil the Proportions, and make a Thing defective, out of deſign to mend it; all thoſe Appearances that Diſtance, and the Situation produce, which are taken for ill Effects and Defaults, being the true Condi-

tion

Ch. VII. tion, and natural Shape of things, which cannot be chang'd without rendering them visibly deform'd. For all that has been, or can be said, on this Subject, is, that it is not so sure, that Distance makes Proportions appear otherwise than they are, as it is certain that the Change of Proportion is, in Effect, the Corruption of it; and that there is much greater Danger, that a Proportion should appear corrupt and vicious, when chang'd, than when it is not so.

In the mean time, what will become of the unanimous Opinion of all Architects, founded upon the Authority of *Vitruvius*, who teaches this Change of Proportion, and prescribes its Rules? Is it credible, that for near two thousand Years, that this Maxim has been establish'd, no one has given himself the Leisure to examine it, and that so many great Persons, who have probably made Reflexion on so important a Question, have not been able to discover the Truth? There must certainly be something in this: and my Opinion is, that as one may have all the Genius necessary for an Architect, without amusing ones self with things, which, we believe, have nothing in them, but a vain and fruitless Subtlety; those that have been capable of resolving the most subtle Questions, may have neglected this, whose Discussion was thought useless, because of the Authority of *Vitruvius*, who seems to have decided it; and also, because there are some Cases, where the Change of Proportion, may, in some measure, be admitted. But, as on these Occasions, the Change is not made on account of the Optics, as will go near to be prov'd; the Truth of the Proposition remains still unshaken, namely, that the Proportions of Architecture are not to be chang'd, according to the different Aspects.

The Ambition that every one has to magnifie the Art he professes, has inclin'd Architects to turn all those things into Mysteries, which they could not give a Reason of: for making use of that great Conceit, we generally have of things of former times, as there are scarce any more *ancient* than those we see in the Remains of the Buildings of the *Greeks* and *Romans*, they would fain establish it as an unmoveable Foundation, that there is nothing in those admirable Remains, that was not done with the greatest Reason; and when the Diversity of Proportions, in Buildings equally approv'd of, is objected to them, they attribute it to the Diversity of Aspects, which they suppose was the Cause of this Change of Proportions, which ought to have had different Rules, by reason of the Difference of Situation.

The Examples mention'd in the beginning of this Chapter, taken from the most approv'd Buildings of *Antiquity*, have plainly shewn that this could not be, because, in the same Aspects, the

† Proportions

Proportions are very often different, and, on the contrary, they are alike in different Aſpects: It remains to ſhew, that in thoſe Caſes, where a Change of Proportions is allowable, it is not founded on the Optics, nor upon any Effect that the Diſtance, or the Situation of the Members of Architecture, can produce.

The firſt Caſe, in which, I think, the Proportions may be chang'd, is when we would not give much Projecture to a Cornice, an Architrave, or a Pedeſtal: for then, the Faces may be made leaning back, to regain, by ſo doing, what we give to the Projectures: and 'tis certain, that here, Optics have nothing to do; becauſe the Projectures have really their due Magnitude; and that their is no Intention of making them appear otherwiſe than they truly are. What is to be obſerv'd in the Practice of this, is, that it ought not to be put in execution, but in Places that are concave, as on the Inſide of Domes or Lanterns, in the Bands, or Architraves of Arches, Door-caſes, Window, and Pannel Mouldings; and, generally, in thoſe Diſpoſitions, where, no Angle, made at the Return, may ſhew the Profile of the Moulding; in which, theſe Inclinations of the Faces, have a very ill Effect. There are Examples of theſe Faces leaning backwards, made with good Succeſs within the *Pantheon*, in the Architrave of the Arches that are over the Entrance, and over the middle Chappel: but this is not practis'd in the Architrave of the *Attic*, where the Faces are diſtinguiſh'd only by Marbles of different Colours, without making any Projecture one beyond the other: which may, probably, be one of the Reaſons there are, to think, this *Attic* was not made by the ſame Architect as built the reſt of the Temple.

Another Caſe is when one would ſet a Coloſs of a Figure in a very high Place; for then, we may make it much larger than the other Figures that are below it: but 'tis evident, this is not done for any Reaſon of the Optics, becauſe the Intention is, that the Figure ſhould appear a Coloſſus. And 'tis to be obſerv'd in ſuch Caſe, that this Statue be ſet upon ſomething that bears a Proportion to its Bigneſs, it not being proper to put it, for Example, upon a ſecond and third Order, which being neceſſarily leſs than the firſt, ought not to bear Statues diſproportionate to it, but ſuch as are leſs than thoſe of the firſt Order. So that it muſt be contriv'd in ſuch manner, that there may appear to be a Receſs of the Work, comprehending ſeveral Orders, or, at leaſt, bearing Proportion to the Coloſſal Statue. This is obſerv'd in the Triumphal Arch of the Fauxbourg of S. *Anthony*, where the Coloſſal Statue, of the King, is ſet above, upon the Maſſive of the Building; againſt which, there is an Order, quite round about, that riſes not above half the Height of this maſſive Part; for the maſſive ſerves for a Pedeſtal to the

Ch. VII. great Statue, which is very much larger than thoſe that are upon the Columns of the Order, to which, they are proportion'd, as the great Statue is to the Maſſive.

Neither ought we to make Statues plac'd above, bigger than thoſe ſet below, when they are of the ſame Kind, that is, when both ſtand each in their own Story and Order: but, on the contrary, they ought always to be diminiſh'd, as the Orders are, which are neceſſarily leſs above than below.

The third Caſe is, when two half Pilaſters make an inward Angle: for then they muſt be allow'd a little more than their Semidiameter, to prevent the ill Effect, the Capital and the Flutings would neceſſarily produce, were not the half Pilaſters inlarg'd in this manner, as I noted in the precedent Chapter. And 't is manifeſt, this Change is not made for any Reaſon of the Optics, but to give ſome of the Parts a little more Breadth than they ſhould have, that we be not oblig'd to ſtraiten and narrow others more than they ought to be: for this is done in the *Corinthian* Capital, in giving the two half Leaves, of the ſecond Range, more than the half, in the inward Angle; becauſe, had they no more than preciſely the half, the bending of the Leaf would be render'd too ſharp and pointed; and the middle Volutes too cloſe together, were they not thus enlarg'd.

The fourth Caſe is, if we would, according to the Opinion of *Scamozzi*, place the *Compoſite* Order between the *Ionic* and *Corinthian*, which I very much approve of, the *Compoſite* Capital having much Affinity with the *Ionic*, and the Groſneſs of its Entablature, making it, alſo, bear more Proportion to the maſſive Orders, than the *Corinthian* does: for in this Caſe, it would be neceſſary to change the Proportions, which might be done, by ſetting the *Compoſite* Column, with its Entablature, upon the *Corinthian* Pedeſtal, ſhortning the Shaft of the Column by two little Modules, and in like manner, placing the *Corinthian* Column, with its Entablature, upon the *Compoſite* Pedeſtal, and adding two little Modules to the Length of its Shaft. There may be, alſo, other Caſes, where it may be permitted to change the Proportions: but I believe there are none where it ought to be done, for any Reaſons of the Optics: for a Sculptor may be allow'd to chooſe ſuch Poſtures as will beſt ſuit the Diſpoſition of his Figures, and avoid all ſuch as would produce an ill Effect; as Monſ. *Girardon* has done, very judiciouſly, at *Seaux*, where he has made a very large Statue of *Minerva*, ſitting at the Top of the Building, on the higheſt *Acroterion* of the Pediment, and diſpos'd it ſo, that, being ſeated ſomething high, the Knees hide no Part of the Body, as they would have done, had they been rais'd higher: but the Truth is, that in this Change, he

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had no Deſign to make the thing appear otherwiſe than it is.

To conclude this Chapter, I cannot but ſay, 'tis ſtrange, that, in Caſes, where Proportions ſhould have been chang'd, there ſome have affected to make them alike. For Example, the three moſt celebrated Authors that have written of Architecture, *Vignola*, *Palladio*, and *Scamozzi*, in the *Ionic*, *Corinthian*, and *Compoſite* Orders, make the Height, of all the Entablatures, of the ſame Proportion to the Length of the Column; *Vignola* giving, all his Entablatues, very near a Fourth of the Column, and *Palladio*, and *Scamozzi*, giving them all, indifferently, about a Fifth Part. For in my Opinion, it had been more rational to ſet the more maſſive Entablature, as is that of the Fourth of the Length of the Column, upon that which is ſhort and well-ſet, as the *Ionic* may be ſaid to be, in Compariſon of the *Compoſite*, and to place the lighter, as is that of the fifth Part of the Length of the Column, upon that which is tall and ſlender, as the *Compoſite* may be ſaid to be, with reſpect to the *Ionic*,; than to have done the contrary. For this Reaſon, I can't but think, that the Variation, and Change of Proportions, which I have us'd in my Entablatures, according to the Difference of the Orders, is ſomewhat better founded, than the Change which is made on account of different Situations and Aſpects.

I did forget to note, wherein this Diverſity of Proportions, which I give my Entablatures, conſiſts, in the Place where 'tis expreſly ſpoken of in this Treatiſe, which is in the fourth Chapter of the firſt Part, where 'tis ſaid, that the Entablatures have one and the ſame Height, in all the Orders; and 'tis from this Equality of Height of the Entablatures, that the Difference of their Proportions, with reſpect to the Columns, ariſes: For the Length of the Columns, going always increaſing, while the Height of the Entablatures remains the ſame, it follows, that the ſhorteſt Columns have Entablatures larger, in proportion, than the longeſt. Thus the Length of the *Tuſcan* Column is of three Entablatures and two Thirds; the *Corinthian* of four and two Thirds, and the *Compoſite* of five: the Proportion of the Entablature going always diminiſhing, equally by one Third of the Height of the whole Entablature, in each Order, as the Order it ſelf becomes more ſlender and delicate.

CHAP. VIII.

Of ſome other Abuſes introduc'd into the Modern *Architecture.*

AS, in Languages, there are ſeveral Ways of Speaking, contrary to the Rules of Grammar, which long Cuſtom have ſo authoriz'd, that there is now no correcting them; and others that are not yet ſo generally received, but their Eſtabliſhment might be prevented, were they rejected by ſuch as have the Reputation of Speaking well: So in Architecture, alſo, we may obſerve Abuſes of both theſe Kinds. There are ſome that cuſtom has not only render'd tolerable, but even ſo neceſſary, that, though contrary to Reaſon and *Ancient* Rules, they are, themſelves, become Rules of Architecture. Theſe Abuſes are ſuch as are mention'd in the Preface, as the Swelling of Columns, the Modilions of Pediments perpendicular to the Horizon, and not to the ſlope Line of the Pediment; to which may alſo be added, the receiv'd Cuſtom of putting Modilions on the four Sides of a Fabrick, and in the Corniſh, that runs a-croſs under the Pediment, placing them in the firſt Order, inſtead of reſerving them for the laſt above; Modillions being proper on thoſe Sides only, where the Rafters are ſet, whoſe Ends they repreſent, and not in the Cornice that runs under the Pediment, but only in the Pediment it ſelf, where they repreſent the Ends of the Croſs-Rafters or Purlins; there being nothing more contrary to what Modillions are intended to repreſent, than

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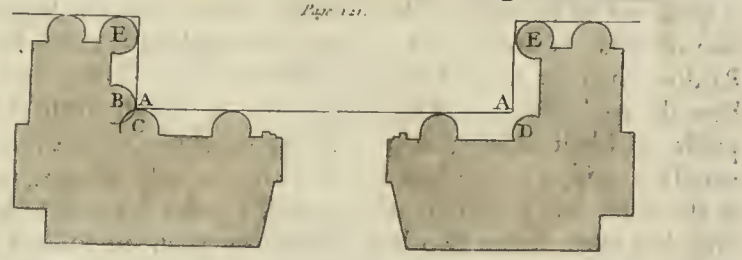
to put them in thoſe Places where there can be neither Rafters nor Purlins. The Cuſtom of making Triglyphs in any other Part than over the Columns, which is the only Place where there are Beams, whoſe Ends the Triglyphs repreſent, may alſo be put in the number of thoſe licentious Practices which Cuſtom has authoris'd.

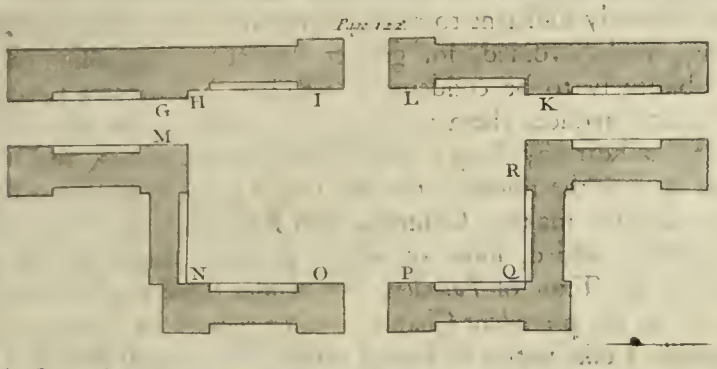
But there are other Abuſes which have no more Authority than what is barely ſufficient to make them tolerable, and which ought at leaſt, to be avoided, for greater Perfection; ſuppoſing they are not abſolutely to be condemn'd. *Palladio* has made a Chapter of them, and reduces them to four only, which are the placing Cartouches to bear any thing; the breaking of Pediments, and leaving them open in the middle; the affecting a great Projecture for Cornices, and the making Columns with Ruſticks: but I think others may alſo be added, ſome of which, poſſibly, might not be introduc'd in the Time of *Palladio*: For beſides thoſe which I have ſpoken of, in the precedent Chapter, which reſpect the Change of Proportions, I take notice of ſeveral others, the greateſt part of which, indeed, are not ſo bad, as thoſe mention'd by *Palladio*.

The firſt is the making Columns, and Pilaſters, interfere, and penetrate each other. This Penetration, in Columns, is more rare than in Pilaſters. There is an Inſtance in the Court of the *Louvre*, where, in the inward Angles, as A, there are plac'd two Columns, B C, inſtead of being content with the Column D, which is capable of doing as much as the two Columns B and C, and much more naturally, if I may ſo ſay, ſuppoſing, that as the Column E ſuſtains the two Architraves which make the prominent Angle, the Column D bears alſo thoſe which make the inward Angle; there being no Reaſon why one Column ſhould not be ſufficient to bear the inward Angle, ſince it is ſo, for bearing the outward one.



Palladio, in a Palace which he built at *Vicenza*, for the Count *Valerio Chiericato*, has alſo made Columns which penetrate each other, which he calls double Columns.

Ch. VIII. The like Abuſe is more common in Pilaſters, it being the Practice of the *Moderns*, when, for Example, the Pilaſter G makes an Advance, and cauſes the like in the Entablature and Pedeſtal, to join to it an half Pilaſter H, which both penetrates it, and is penetrated by it; this half Pilaſter being to ſupport the Entablature that runs, continued, over the Pilaſter I, the Abuſe conſiſts in this,



that beſides the Parts penetrating each other, the half Pilaſter H, is alſo out of its place, and wholly uſeleſs, the Pilaſters K and L, being ſufficient. The Reaſon of this is, that thoſe Works, where Pilaſters, and half Pilaſters are, as G H I, which have no more Projecture than the fifth or ſixth part of the Diameter of the Pilaſter, and that make an Advance but of this Thickneſs, ought to be conſider'd as Bas-reliefs, which repreſent the whole Relievo M N O, and that thoſe, which, as L K, have no half Pilaſters, repreſent the entire Relievo P Q R. Now it is certain, that the Manner M N O, has no Reaſon in it, and that the Diſpoſition of the Pilaſter Q, in the whole Relief, is much better than that of the Pilaſter N, which, not being directly oppoſite to the Pilaſter M, but on the Side of it, is quite out of its place. And 'tis alſo certain, that the Repreſentation of what is amiſs, can be good for nothing; unleſs for other Reaſons than are taken from the Nature of the Thing, ſuch as are here the multiplying of Ornaments, which conſiſts in the half Capitals, and half Baſes, plac'd very improperly. So that it may generally be ſaid, that all half Pilaſters are properly Abuſes, not only in the Kind here propos'd, where a half Pilaſter is join'd to a whole one, but even, when two half Pilaſters meet in an inward Angle. So that the little Corner of the Pilaſter Q, is the only thing that can regularly be put in the inward Angle; as is done within the great Portico's that are in the Front of the *Louvre*. For though we find half Pilaſters in inward Angles, in the moſt approv'd Works of the *Antique*, ſuch as the *Pantheon*; yet as they always ſuppoſe a mutual Penetration of two Columns, we may truly ſay, they are contrary to exact Regularity, with which, however, we may ſome-

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times be permitted to diſpence, when there is manifeſt Reaſon ſo to do.

The ſecond Abuſe is the Swelling of Columns, of which, I have ſpoken, in the eighth Chapter of the firſt Part, where I have ſhewn that this Cuſtom is without Reaſon, and that we do not find that it has been practis'd in the *Antique*.

The third Abuſe is the Coupling of Columns, which ſome cannot approve of, becauſe there are ſcarce any Examples of it in the *Antique*. But the Truth is, if we may be admitted to make any Addition to the Inventions of the *Ancients*, this Contrivance deſerves to be receiv'd in Architecture, as having a conſiderable Beauty and Convenience. As to its Beauty, it is perfectly according to the Taſt of the *Ancients*, who affected thoſe Buildings where the Columns ſtood cloſe together, beyond all others, and had nothing to object, but the Inconvenience this Cloſeneſs caus'd, in the Manner they perform'd it: for this Streight oblidg'd them to enlarge the middle Intercolumnations, and was alſo the Occaſion that *Hermogenes* invented the Pſeudodiptere, to enlarge the Iſles, or Walks, of the Porches of the Temples, call'd Dipteres, becauſe, there, the Iſles were double, having two Rows of Columns, with which, the Wall of the Temple made two Galleries on the out-ſide. Now, this knowing Architect, who was one of the firſt Inventors of the *Ancient* Architecture, thought fit to take away the Row of Columns in the middle, and of two narrow Galleries, to make one that would have the Breadth of both, and of a Column beſides. From the Example of *Hermogenes*, the *Moderns* have introduc'd this new Manner of placing Columns, and, by coupling them, have found a Way to make the Portico's more free, and the Orders more graceful: For placing the Columns two and two, the Intercolumnations may be kept ſo large, as that the Doors and Windows, which are in the Portico's, be not darken'd, as they were among the *Ancients*, where theſe Openings were wider than the Space between the Columns; for in their moſt ordinary Methods of placing of Columns, it was neceſſary, in an Intercolumnation of eight Feet, that the Columns ſhould be of four or five Feet Diameter; whereas, when the Columns are coupled, 't is ſufficient if they have two, or two Feet and a half diameter: and by this Means, the large Intercolumnations have not the ill Appearance they would have; did the Columns ſtand ſingly, one by one; which, in that condition, would ſeem too weak and incapable to ſupport the Length of the Entablature, between Column and Column.

This Manner of placing Columns may be conſider'd as a ſixth, added to the five Ways that were in uſe among the *Ancients*, the firſt of which was call'd Pycnoſtyle, becauſe the Columns were plac'd very

Ch. VIII. very close, the Intercolumnations being no more than a Diameter, and a half of the Column; the second was call'd Systyle, where the Columns were not quite so close, the Intercolumnations being two Diameters; the third was call'd Eustyle, where they were moderately close, the Intercolumnation being two Diameters and a quarter; the fourth was call'd Diastyle, where they were a little wider, and the Intercolumnation of three Diameters; and the fifth was call'd Araeostyle, where the Columns were far distant, the Intercolumnation being four Diameters. Now this additional Sixth, may be said to partake of the two extreme Kinds, before mention'd, namely, of the Pycnostle, where the Columns are very close, and of the Araeostyle, where they are very wide; and that this Disposition of Columns, which can only be reputed abusive, because the *Ancients*, did not use it, may be plac'd in the number of several other things of the like Nature, which Custom has authoris'd, and of which, Mention was made at the Beginning of this Chapter.

The fourth Abuse is the enlarging of the Metopes, in the *Doric* Order; to give the Intercolumnations those Breadths we may have need of. For if, for Instance, we would couple two Columns, we must necessarily set the Triglyphs further asunder, and enlarge the Metope; the Space between the Middle of one Triglyph, and the Middle of the other, being much less than that between the Middle of one Column, and the Middle of the other, how near soever they are plac'd. Now the *Ancients* were very scrupulous of making this Enlargement, *Vitruvius* says that *Pytheus* and *Tarchesius*, two famous Architects of *Antiquity*, on this very Account, thought this Order might not be made use of in Temples. *Hermogenes*, who, on other Occasions, dispens'd with the *Ancient* Rules, could never resolve with himself to take any Liberty in the *Doric* Order, for, having got together a great Quantity of Marble, for building a Temple to *Bacchus*, he quitted the Design he had to make it of the *Doric* Order, and made it of the *Ionic*. The *Moderns* have been more bold; *Palladio*, in the Palace of Count *Valerio*, which was mention'd before, has inlarg'd the Metopes, in the middle Intercolumnation of the Portico, to make it somewhat larger than the other Intercolumnations, which have two Triglyphs; and this he has done without any other Reason, or Necessity, than because he would not inlarge his middle Intercolumnation, so much as he must have done to receive three Triglyphs; which, however, ought to have been done, according to the Rules *Vitruvius* gives for Porticos of the *Doric* Order, where he puts three Triglyphs in the middle Intercolumnation, though the other Intercolumnations have but one. The skilful Architect of the Portail of S. *Gervais*, which is one of

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the fineſt Structures that have been built theſe hundred Years, has alſo made no Difficulty, that he might couple his Columns to inlarge the Metopes in the firſt Order, which is *Doric*. At the Portail of the Minimes in the *Place Royal*, there are alſo other Liberties taken in the *Doric* Order, as the putting half Triglyphs in the inward Angles, after the Example of *Palladio*, who has done it in the ſame Palace of Count *Valerio*.

The fifth Abuſe is the taking away, in the *Modern Ionic* Capital, the lower part of the Abacus, which ſome call the Bark or Rind, being that which makes the Volute, in the *Ancient Ionic* Capital, and that makes the lower part of the Abacus in the *Compoſite* Capital, and which, alſo, as I think, ought to do ſo in the *Modern Ionic*; for this Part being ſuppreſs'd, there remains only the upper Part, which is an Ogee: ſo that the Abacus is left thin as a Tile; and as it reſts only upon the convex parts of the four Volutes, which it touches but in four Points, this produces a very ill Effect; becauſe it ſeems to have a Weakneſs that offends the Eye. In the Capitals of the Temple of *Concord*, and thoſe of *Fortuna Virilis*, which are the Models from whence the *Modern Ionic* Capital is copied, there is, indeed, an Abacus, that conſiſts likewiſe of a ſingle Ogee: but this Ogee, though thin, has not that Appearance of Weakneſs, becauſe it bears not upon the Convexity of the Volutes, theſe Volutes not iſſuing out of the Vaſe, but running quite ſtrait over it, as in the *Antique Ionic*: So that this Abacus, as thin as it is, has nothing in it offenſive, being every where equally ſupported; which is not ſo in the Capital we ſpeak of, where there is a large void Space between the Abacus and the Vaſe. The beſt Manner, in my Opinion, would be to leave the Abacus quite whole, as it is in the *Compoſite* Capitals of the *Antique*, where the Volutes ſpring from the Vaſe, and penetrate the lower part of the Abacus. And this is what *Palladio* has done in the Capital he has deſign'd, and which he gives for that of the Temple of *Concord*, in which, becauſe the Volutes penetrate the Vaſe, he has made the Abacus entire, and like that of the *Compoſite* Capital of the Arch of *Titus*, where the Volules enter into the Vaſe. For there is no Reaſon not to imitate this Particular of the Abacus of the *Antique Compoſite* Capitals, ſince 'tis from their Model, that all the reſt of the *Modern Ionic* Capital is taken. And 'tis in the Want of this Imitation, that the Abuſe conſiſts.

The ſixth Abuſe is to make one great Order, comprehending ſeveral Stories, inſtead of giving an Order to each Story, as the *Ancients* did: and 'tis probable, this Liberty takes its Riſe from the Imitation of thoſe Courts the *Ancients* call'd *Cava Ædium*, or inward Quadrangles, and chiefly of thoſe ſtil'd *Corinthian*, where the Enta-

Ch. VIII. blature of the Buildings, which environ'd them, were ſuſtain'd by Columns that went from bottom to top, and contain'd ſeveral Stories; the Difference between theſe *Corinthian* Courts, and our Buildings of one great Order, being only that the Columns, in the *Corinthian* Courts, were at ſome ſmall Diſtance from the Wall, to bear the Projecture of the Entablature, which ſerv'd as a Pent-houſe, and that our Columns are half ſunk in the Wall, and that moſt commonly, alſo, inſtead of Columns, we make uſe of Pilaſters only. Now the Abuſe lies in the Affectation of a great Order, which is not proper to all ſorts of Buildings; for as a great Order is the Majeſty of Temples, Theatres, Portico's, Galleries, Salons, Veſtibles, Chapels, and other Buildings, which permit, or even require, a great Height; ſo it may be ſaid that this Manner of including ſeveral Stories in one great Order, has, on the quite contrary, ſomething very mean and poor, as repreſenting a great Palace half ruin'd and abandon'd, in which, private Perſons, being willing to dwell, and finding that great and lofty Apartments were not convenient for them, or being willing to husband Room, had made Entreſoles, or half Stories in it.

This does not hinder, but that, ſometimes, in great Palaces, the Architect may find a good Pretence for one great Order, when, 'tis evident, he is oblidg'd, by the Symmetry, to continue a great Order in the reſt of the Building, which is neceſſary for ſome conſiderable part of it. This has been done very judicially in ſeveral Buildings, but particularly in the Palace of the *Louvre*, which being built on the Side of a great River, which gives a vaſt and ſpacious Diſtance for the View of it, had need have a great Order, that it might not appear mean and little. This Order, which comprehends two Stories, and is plac'd upon the lower Story, which ſerves it as a Pedeſtal, and which is properly the Rampart of the Caſtle, is rais'd in this manner, by reaſon of two great and magnificent Portico's, which take up the Front of the Entry of the Palace, and which being to ſerve as a Veſtibule, to all the Apartments of the firſt Story, requir'd this great and extraordinary Height, which is given to its Order, ſhould needs be purſu'd, and continu'd afterwards, quite round the whole Building: For that authoriſes, or, at leaſt, excuſes the Impropriety that might have been objected againſt the Architect, if he had, without apparent Neceſſity, done a thing, in it ſelf, contrary to Reaſon: namely, not to give each Story, which is, properly, a ſeparate Building, its diſtinct and proper Order, and to make one Column ſerve to carry two Floors, ſuppoſing that it carries one, as we may ſay, upon its Head, and the other as hanging at its Girdle. For the Diſtance of the View, alone, cannot be a ſufficient Reaſon to raiſe a Building, which, in

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its own Nature, ought to be low, any more than the Largeneſs of a Theatre ſhould oblige us to make the Stairs, Seats, Balluſtrades and Rails, higher than uſual, as *Vitruvius* has remark'd.

The ſeventh Abuſe is to conſtrain ones ſelf to give a great Height to a Building in proportion to the Greatneſs of its Length, through a falſe Perſuaſion, that this pretended Proportion ought to be the principal Rule, though 'tis contrary to a Maxim of *Vitruvius*, which is, without compariſon, more important: namely, that the Dimenſions of Buildings ought to be regulated by the Conveniency their uſe requires. For what can be more unreaſonable, when, in a great Court, we are oblidg'd to give Buildings a great Extent, than to make them twice the Height that is neceſſary, by augmenting the Number and Height of the Stories, which are thereby made inconvenient, without giving them any Beauty, ſince Beauty is not to be found in thoſe Things where the Proportion produces a viſible Inconvenience? It muſt, then, be confeſs'd, that great and large Buildings do not require a great Height, but when they are capable of it, and ſeem to demand it, as Temples, Theatres, and other Buildings of that kind. For though it is true that lofty Heights contribute much to the Majeſty and Beauty of Architecture; it depends upon the Prudence of the Architect, to find out, and chooſe rational Pretences for giving theſe Heights to ſuch Buildings, as, in themſelves, do not require them, ſuch as are thoſe deſign'd for Habitation; and for this Purpoſe, he muſt find Means to raiſe ſome large Veſtibule, or great Chapel, which appearing above the Apartments, gives Height to the Building, in thoſe Parts, where it is moſt proper. And this is what has been very well perform'd in the *Eſcurial*, which, being compos'd of ſeveral Buildings, of a great Extent, and which have but a moderate Height, being proportion'd to Uſes which did not require a great one, has, in the middle, a large and high Chappel; which riſes like a Head upon the Shoulders of this great Body. For it can n't be ſaid this great Body of the Eſcurial, conſiſting of a Convent and a Palace, may not ſerve for Palaces alone: Since 't is no ways inconvenient, to make, in great Palaces, Chapels thus lofty, diſtinct and ſeparate, from the Apartments; This having been practis'd in all times, with good Reaſon and Agreeableneſs, in ancient Caſtles, where the Chapel was never in a Chamber, or a Hall, as we have lately made them, but apart by it ſelf, with its proper Form of a Chapel.

The eighth Abuſe is that which I ſpoke of in the ſecond Chapter of the ſeventh Part, treating of the *Doric* Order: It conſiſts in this; that ſome of the *Moderns*, contrary to the uſual Practice of the *Ancients*, join the Plinth of the Baſe of the Column, to the Extremity of the Cornice of the Pedeſtal, with a Sweep, which, in Effect,

Ch. VIII. Effect, ſuppreſſes this eſſential part of the Baſe, and makes it ſeem rather a part of the Cornice of the Pedeſtal, than a part of the Baſe of the Column.

The ninth Abuſe, which has ſome Agreement with the firſt, which conſiſts in the Penetration of two Columns, or of two Pilaſters, is the making what we call an Architrav'd Cornice, by confounding the Architrave and Freeze with the Cornice. This is done when there is not room enough for a compleat Entablature: The Abuſe conſiſts in this, that we would have that paſs for an Order, which is not ſo; for 'twere better not to make it an Order, but take away the Columns and Pilaſters: Or, if this Entablature, which we are obliged to make low, through want of room, muſt have a Projecture that requires ſomething Inſulate and Detach'd to bear it; we ſhould then put Caryaatides, Thermes, or very large Conſoles, or Corbles, and not Columns; which, in the regularity we are now ſpeaking of, always require a Crowning compos'd of all the three parts diſtinct, each from other; namely, Architrave, Freeze, and Cornice.

The tenth Abuſe, is the breaking off the Entablature of an Order, and making the Cornice of a Pediment riſe from the top of a Column, or a Pilaſter, or plain Peer, directly over which the Entablature is diſcontinued, to deſcend again upon the other ſide, where the Entablature is renew'd, without having either Architrave, Freeze or Cornice, running a-croſs underneath. This Practice is quite contrary to the Principles of Architecture; which, according to the Precepts of *Vitruvius*, and the Practice of all good Maſters, in what belongs to Entablatures and Pediments, is govern'd by the imitation of the Works of Carpentry, ſuppoſing a Pediment to be like the Truſs of a Roof, conſiſting of three Parts: Namely, of the two principal Rafters, which are repreſented by the two Cornices of the Pediment, that riſe, meet and reſt, one againſt the other; and of one Beam repreſented by the Entablature that runs underneath: for as a Truſs cannot ſubſiſt if we take away one of theſe three parts, ſo a Pediment ought likewiſe to be eſteemed defective, if any of them are wanting: And if *Palladio* had reaſon to blame the cutting away the upper part, or top of the Pediment, becauſe it takes away, from the principal Rafters, which this mutilated part repreſents their principal uſe, by hindering the leaning of their upper ends one againſt the other; there is no leſs reaſon to find fault with thoſe Architects, who break off the Entablature that ſhould run under the Pediment, becauſe they take away that which repreſents the Beam that ſhould keep the lower ends of the Rafters firm, and prevent their ſpreading, or flying out.

THERE are, beſides, ſome other Abuſes, of leſs Importance, as the making Impoſts to profile againſt Columns; giving them more Projecture than the Pilaſters have, againſt which their Profiles come, as is done in S. *Peter's* at *Rome*; the making the Cornice of one Story, ſerve for the Rail, or Parapet, to a Terraſs, or to the Windows of another Story, above; the continuing the Window-ſtool to make a Facia round the Building; the breaking, or returning, the Mouldings on the Corners of Doorcaſes, and Window-jambs, with a Knee (as our Workmen term it) as *Scamozzi* has done, in a very diſagreeable Manner; the making, at the Sides of Doors, and Windows, under the Cornices, that cover them, Corbels which do not ſupport theſe Cornices, the true Manner being to make the Bed-moulding, or thoſe Mouldings, under the Corona, advance, and make a Projecture over the Scroul or Corbel: for this Abuſe is no leſs to be condemn'd, than that of the Cartoozes, which *Palladio* ſo much blames; there not being more Reaſon to find Fault with the uſe of Cartoozes to bear any thing, becauſe they are not capable of doing it, than there is that Corbels, which are deſign'd to ſupport, ſhould carry nothing.

PALLADIO has deſign'd Scrolls, or Bragets, in the Temple of *Manly Fortune*, and in that of *Niſmes*, call'd the *Square-houſe*, which immediately ſupport the Corona. But the Manner we make them at preſent, has ſomething more elegant than is in thoſe of the *Antique*, whoſe Proportions, *Vitruvius* has given us, which are the ſame with thoſe in the Temple of *Manly Fortune*: for theſe Corbels of the *Antique*, are ſtrait and flat, not having the ſpiral Circumvolutions of their Volutes, prominent, like thoſe of the *Antique Compoſite* Capitals, as they are now-a-days made. There are of theſe Corbels, according to the *Antique*, in the noble Portico, which that excellent Architect, Mr. *Mercier*, has built to the Church of the *Sorbone*, on the Side of the Court, which have no good Effect. And this confirms what was ſaid in the Beginning of this Chapter; namely, that there are Things, in Architecture, which may be call'd abuſive, becauſe they are not conformable to the Rules of the *Ancients*, but, however, are very good, and may, without Scruple, be put in Practice.

I find, alſo, an Inſtance of this, in the Roſes that are put between the Modillions, in the Soffite of the Corona, of the *Corinthian* Cornice. Theſe Roſes are uſually of a different Manner, in the *Antique*: but, I think, they are not to be blam'd, who take the Liberty to make them all alike, after the Example of thoſe in the Baths of *Diocletian*. The Reaſon is, becauſe there ought to be a

Ch. VIII. Diſtinction made between thoſe Things, which, in Sculpture and Painting, are repreſented as Ornaments, and thoſe that are repreſented Hiſtorically, as containing Truths and Matter of Fact. For the former ought to be repeated, and renew'd, always in the ſame manner, and the latter ought to be diverſified. For Example, if we repreſent the Border of a Flower-garden, it may be adorn'd with ſeveral Sorts of Flowers, in different Diſpoſitions, becauſe the thing is really ſo in Fact: But if we would adorn any Member of Architecture, with Foliage, or Flowers, we ſhould not only repeat the ſame Foliage, and the ſame Flowers, but they ought, likewiſe, to be of the ſame Bigneſs, and have the ſame Diſpoſition; this Repetion of the ſame thing, making a part of that Symmetry, in which, one of the principal Beauties of Architecture, and Sculpture, conſiſts, as to the point of Ornaments. And it ſignifies nothing to ſay that the Roſes we ſpeak of are Ornaments of another Kind, than thoſe which are continued through the Length of a Square, an Ogee, or a Cimaiſe; and that theſe Roſes being ſeparated each from other, 't is ſufficient, for the Symmetry, that they are all of the ſame Bigneſs: For there is no more Reaſon to make theſe Roſes different, than there is to make the Modillions ſo, which, tho' they are all of the ſame Bigneſs, would not be endur'd, if they were made of different Figures, there being no Perſon, that, in a Row of Modillions, would like ſome ſhould be cut with Olive-leaves, others with Leaves of Acanthus, others with Eagles, others with Dolphins inſtead of Leaves, as we find them in different Buildings of the *Antique*.

Although, among the Reflexions made in this Chapter, upon the Abuſes in Architecture, lately introduc'd, there are ſome that do not very particularly belong to the Subject of this Treatiſe, of the Ordonance of Columns; I thought, nevertheleſs, they ought not to be left out, becauſe they appear'd, to me, ſo conſiderable that I could not let ſlip the Opportunity of ſpeaking of them, tho' ſomething out of the Way, in Hopes that this Freedom, I take, will be conſider'd as one of thoſe Abuſes, which, though contrary to Rules, are, however, authoris'd, becauſe they are conſiderably uſeful on ſome Occaſions.

To conclude this Treatiſe, I ſhall repeat the Proteſtation I formerly made in the Preface: namely, that I have no Deſign the Paradoxes, I have advanc'd, ſhould be look'd upon as Opinions that I am obſtinately reſolv'd to maintain, being ready to renounce them, when I ſhall be better inform'd of the Truth, ſuppoſing that I may be now in the wrong. But, above all, as to thoſe Things I call Abuſes,

Abuſes, I declare that all the Reaſons I have us'd to condemn them as ſuch, do not appear, to me, ſtrong enough to make me think them preferable to the Authority of thoſe great Perſons, who have approv'd and eſtabliſh'd them , I only thought, that the Veneration, and Reſpect, I have for them, ought not to hinder my treating theſe Queſtions as Problems, upon which, I could heartily wiſh to have the Deciſions of the Learned, who would give their Judgment honeſtly, without Partiality or Prejudice.

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In the 15th & 16 Centuries Learning of all kinds began to revive and the Chaste Architecture of the Greeks and Romans seemed to be called into life again — and prevailed in Inigo Jones's time who died in 1651

Though I admire the works of Sir Christopher Wren more than any other English Architect, and next to him Inigo Jones. yet I cannot help thinking that with all his Heavinefs of design that Sir John Vanbrugh was a Picturesque Architect and that there was a great deal of Fancy about him if not much Taste. he died 1726 and Sir Christopher Wren 3 years before him

{ Some of whom by their Whims and Freaks are destroying the Taste of the Country & [illegible]

NB. Those marked with a Star Baker thinks rank highest — Robert Milne omitted some Bridge Builder [illegible]
Charles Labyle do — do [illegible]
Kenton Couse — [illegible] Dance — [illegible]
Robinson — [illegible]

Memorandum — The Polite arts such as Painting Sculpture and Architecture were involved in the Ruin of the Roman Empire. and this was succeeded by a long dark and ignorant Period. but at length towards the beginning of the 14th Century these Studies began to revive but tho' from low beginnings they gained ground yet they made a considerable progrefs before the Science of Perspective was discovered which was little regarded in their works 'till the beginning of the 15th Century when Paolo Uccello a Florentine Painter made it his more immediate Study See a [illegible] See Preface to J. Hamiltons Perspective

[The] Ruin of the Roman Empire 68 years after Christ therefore the Arts laid Dormant 300 years & more — Goths & other Barbarians having broke in upon the Empire & ruined it and arts & Sciences became a Sacrifice to ignorance and barbarity and Architecture was lost in the general Confusion

Remarks by Pierre le Muet Arch^t. to the French K^g.
vide his Folio work publish'd 1675 — Cop^y. IB 1806

All the Historians agree that the Assyrians, the Medes, and Persians were famous Builders — so were the Egyptians; — The Temple of Soloman also proves that the Hebrews perfectly understood Architecture;

The Western people have wonderfully improved the Sciences which they received from the Eastern and surpassed in the Knowledge of Architecture all the above mentioned Nations.

The Greeks first became excellent herein, The Italians afterwards raised marvellous works since which time the French and English have carefully and successfully practised all that the Greeks and Romans knew.

N.B. — le Muet was not candid enough to mention the English, but I have put them in, thinking they stand as near as the French however ... but the French sound their own trumpet & boast wonderfully in all cases —

"In fact we have only 3 orders of Architecture — The Doric, the Ionic, and Corinthian they are the only ones wherein one can observe invention and particular Character, whilst the Tuscan and Composite have nothing but what is borrowed and do not much differ from the 3 first. The Tuscan is only a gross Doric — and the Composite an agreeable mixture of The Ionic and the Corinthian — It is then true that Architecture has only middling obligations to the Romans, and that it owes all that is precious and solid to the Greeks alone" — vide Essay on Architecture pub^d. 1750 — Pages 65 & 66

The Gothic and Arabic or Moorish orders have nothing Remarkable

remarkable except the excessive heaviness of one and the extreme lightness of the other they have so little invention or true taste that they only prove to us the barbarity that subsisted & filled up the space of time for 10 Ages

After all 3 Orders only are over real niches — The Doric is the first and heaviest designed for those works that require great Solidity its proportions are so regulated as to give it great strength without banishing delicacy

The Corinthian is the last and the lightest designed for works that require more elegancy it is so regulated in its proportions as to posess the greatest possible delicacy without excluding Strength

The Ionic is between both. It has neither all the solidity of the Doric nor all the elegancy of the Corinthian it partakes of both

These 3 Orders seem to fill up all the extent of the Art in supplying all our wants and all our tastes — The Doric and Corinthean are two extremes beyond which we cannot go without meeting on one side massy the other the Weak between these two extremes the Ionic gives us a just and happy medium

See then all the gradation from the solid to the delicate is admirably filled up. It would be extremely difficult to add anything to so happy an invention and at present all our efforts have not made any real improvements — perchance we shall one day see some happy genius take a flight and lead us by unknown ways to the discovery of beauty that has escaped the ancients — If nature has not yet distributed all her gifts and bounties.